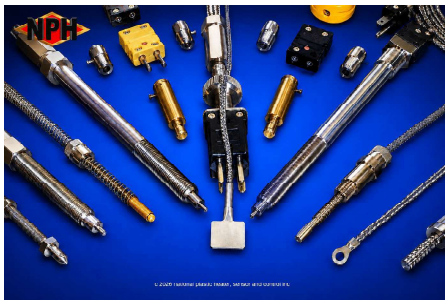
NATIONAL PLASTIC HEATER, SENSOR AND CONTROL INC.

INDUSTRIAL THERMOCOUPLES & RTD SENSORS CATALOG



PLASTICS INDUSTRY THERMOCOUPLES & RTD SENSORS

Accurate temperature control is critical throughout plastics processing. NPH thermocouples and RTD sensors provide reliable temperature measurement for injection molding, extrusion, blow molding, thermoforming, hot runner systems, packaging equipment and OEM machinery, helping improve product quality, process stability and energy efficiency.

Thermocouples are among the most commonly used temperature sensors in plastics manufacturing due to their fast response time, durability and wide operating temperature range. A thermocouple is manufactured by joining two dissimilar metal conductors together at a sensing junction. When exposed to heat, the junction produces a small electrical voltage proportional to temperature. Common thermocouple calibrations used in the plastics industry include Type J, Type K, Type T and Type E.

INDUSTRIAL PROCESS TEMPERATURE SENSORS

Industrial process thermocouples, RTD sensors and thermowell assemblies provide accurate temperature measurement for process control, equipment protection and product quality. NPH sensors are used throughout manufacturing, chemical processing, food processing, power generation, laboratories and industrial heating systems.

Thermocouples are temperature sensors manufactured by joining two dissimilar metal conductors together at a sensing junction. When heated, the junction generates a millivolt signal proportional to temperature. Industrial thermocouple assemblies are valued for their fast response time, wide temperature range, durability and vibration resistance.

RTD sensors, or Resistance Temperature Detectors, operate by measuring the resistance change of a precision platinum element as temperature changes. PT100 RTD assemblies are commonly used where higher accuracy, repeatability and long-term stability are required.

EUROPEAN / METRIC THERMOCOUPLES

European and metric thermocouples are designed for imported machinery and DIN-compatible systems. Available in Type J and Type K calibrations, these sensors are commonly used in plastics processing, packaging equipment, automation systems and OEM machinery requiring metric dimensions and European connection styles.

European thermocouples are designed to provide fast, accurate, and reliable temperature measurement in demanding industrial environments. They are commonly available in Type J and Type K calibrations and can be manufactured with grounded, ungrounded, or exposed junctions depending on the application requirements. Popular constructions include adjustable bayonet thermocouples, threaded probes, compression fitting assemblies, melt bolt thermocouples, ring and shim styles, and mineral insulated sensor designs.

National Plastic Heater Sensor and Control Inc.

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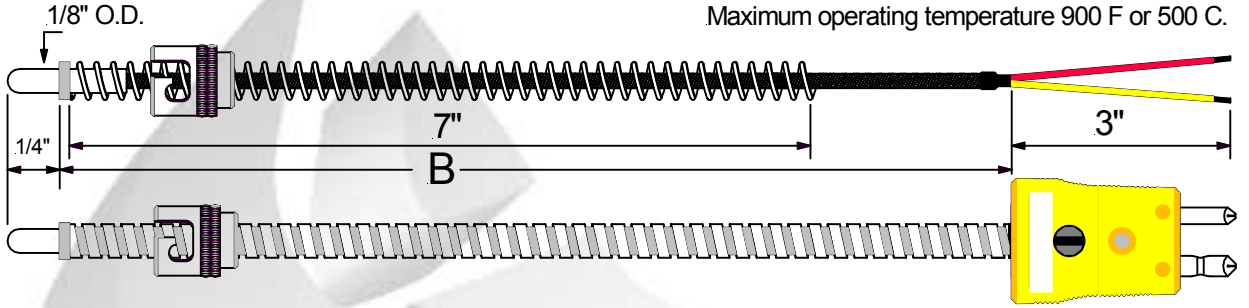
Plastic Industry Thermo

Miniature Adjustable Bayonet Style Thermocouple



Bayonet cap runs along spring & armor cable length.

Steps To Follow: 1. 2. 3. 4. 5. 6.

Model No. A1 [ ] [ ] – [ ] – [ ] [ ] [ ]

1. Calibration

J	(+) Iron Vs. (-) Constantan
K	(+) Ni.-Chromium Vs. (-) Ni.-Aluminum

2. Junction

G	Grounded
U	Ungrounded

3. "B" Dimension

"B"= 0 4 8 "

Leads Wire Length In Inches

4. Wire Description

S	24 Gage Stranded Stainless Steel Braid
X	0.210" O.D. Flexible Armor Cable
F	24 Gage Stranded Fiberglass Cable
T	24 Gage Stranded Teflon Cable

5. Termination Type

1	3" Split Leads & 1/2" Bare Ends.
2	3" Split Leads & No.10 Spade Lugs.
3	Standard Male Plug
4	Standard Female Jack
5	Mini Male Plug
6	Mini Female Jack

6. Accessories

A	None
B	Bx Connector
C	Cable Clamp

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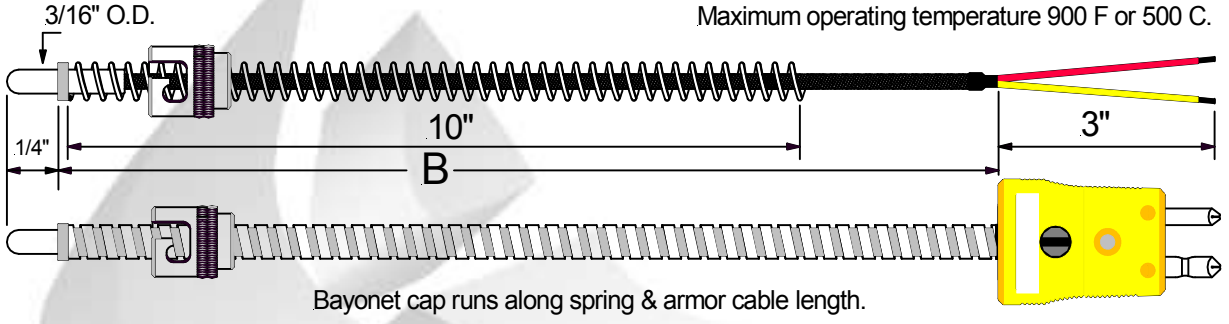
Plastic Industry Thermo

Adjustable Bayonet Style Thermocouple



Steps To Follow:

	1.	2.	3.	4.	5.	6.	7.
Model No. A2			–	–			

1. Calibration

J	(+) Iron Vs. (-) Constantan
K	(+) Ni.-Chromium Vs. (-) Ni.-Aluminum
D	Dual J: (+) Iron Vs. (-) Constantan
Y	Dual K: (+) Ni.-Chromium Vs. (-) Ni.-Aluminum

2. Junction

G	Grounded
U	Ungrounded

3. "B" Dimension

"B"= 0 4 8 "

Leads Wire Length In Inches

4. Wire Description

S	20 Gage Stranded Stainless Steel Braid
X	Flexible Armor Cable
F	20 Gage Stranded Fiberglass Cable
T	20 Gage Stranded Teflon Cable

5. Termination Type

1	3" Split Leads & 1/2" Bare Ends.
2	3" Split Leads & No.10 Spade Lugs.
3	Standard Male Plug
4	Standard Female Jack
5	Mini Male Plug
6	Mini Female Jack

6. Accessories

A	None
B	Bx Connector
C	Cable Clamp

7. Probe Tip Descripsion

1	Flat Tip
2	Radius Tip
3	Drill Point Tip

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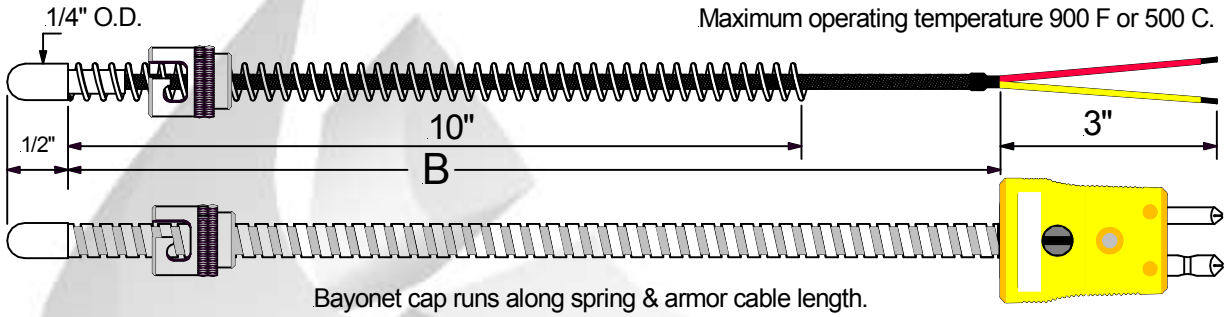
Plastic Industry Thermo

1/4" Adjustable Bayonet Style Thermocouple



Steps To Follow:

Model No. A3 [1.] [2.] [3.] – [4.] [5.] [6.] [7.]

1. Calibration

J	(+) Iron Vs. (-) Constantan
K	(+) Ni.-Chromium Vs. (-) Ni.-Aluminum
D	Dual J: (+) Iron Vs. (-) Constantan
Y	Dual K: (+) Ni.-Chromium Vs. (-) Ni.-Aluminum

2. Junction

G	Grounded
U	Ungrounded

3. "B" Dimension

"B"= 0 4 8 "

Leads Wire Length In Inches

4. Wire Description

S	20 Gage Stranded Stainless Steel Braid
X	Flexible Armor Cable
F	20 Gage Stranded Fiberglass Cable
T	20 Gage Stranded Teflon Cable

5. Termination Type

1	3" Split Leads & 1/2" Bare Ends.
2	3" Split Leads & No.10 Spade Lugs.
3	Standard Male Plug
4	Standard Female Jack
5	Mini Male Plug
6	Mini Female Jack

6. Accessories

A	None
B	Bx Connector
C	Cable Clamp

7. Probe Tip Descripsion

1	Flat Tip
2	Radius Tip
3	Drill Point Tip

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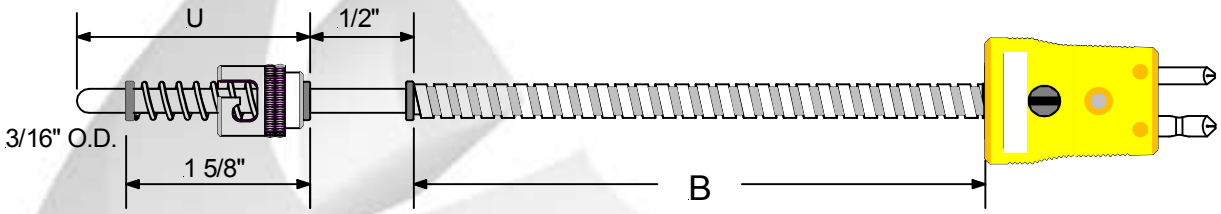
Plastic Industry Thermoc

Fixed Bayonet Style Thermocouple

Model Code: B1

Maximum operating temperature 900 F or 500 C.



A	B	C	D	E	F	G	H	I		J	K
B1									–		

A Outside Diameter

A	1/8"
B	3/16"
C	1/4"

B "U" Dimension

Specify " U " Length In Inches 0 6

Example "U" is 6" = 06

C "U" Length Fractional

A	0"
B	1/8"
C	3/16"
D	1/4"
E	1/2"
F	5/8"
G	3/4"
H	7/8"

D "B" Dimension

Specify " B " Length In Inches 0 4 8

Example "B" is 48" = 048

E Calibration

	+	–
J	White	Red
K	Yellow	Red
T	Blue	Red

F Junction Styles

Element Description	Grounded	Ungrounded	
	Common	Common	Isolated
Single	G		U
Duplex	D	C	I

G Cable Conductor Description

1	24 Gage, Solid Conductor
2	24 Gage, 7 Stranded Conductors
3	20 Gage, Solid Conductor
4	20 Gage, 7 Stranded Conductors

H Cable Insulation Description

A	Fiberglass Insulation: 950F / 510C
B	Teflon Insulation: 500F / 260C
C	P.V. C. Insulation: 221F / 105C
D	Teflon, Shielded + Drain Wire
E	P.V.C., Shieded + Drain Wire

I Outer Jacket Protection

1	None
2	Stainless Steel Braid
3	Armor Flexible Cable: 0.280" Outside Diameter
4	Armor Flexible Cable 0.210" Outside Diameter

Metal Braid Protection not available on P.V.C insulation cable.

J Termination

A	3 1/2" Split leads & bare ends
B	3 1/2" Split leads & No.10 spade lugs.
C	Standard Male Plug (350 F)
D	Standard Female Jack (350 F)
E	Mini Male Plug (350 F)
F	Mini Female Jack (350 F)

K Termination Options

1	None
2	Bx Connector
3	Cable Clamp

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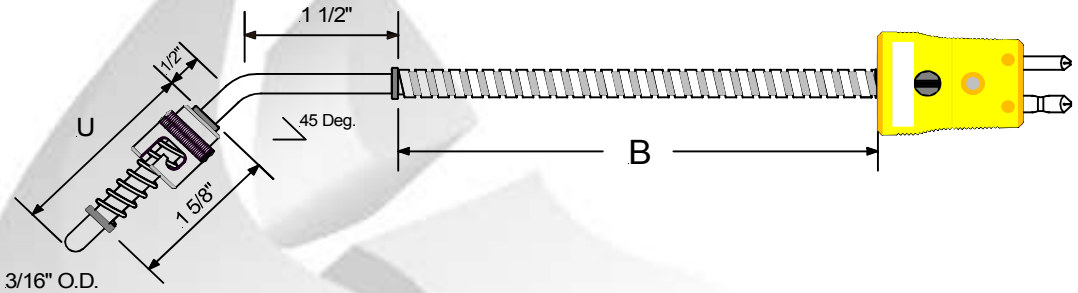
Plastic Industry Thermo

Fixed Bayonet Style Thermocouple. 45° Bend.

Model Code: B2

Maximum operating temperature 900 F or 500 C.



A	B	C	D	E	F	G	H	I		J	K
B2									—		

A Outside Diameter

A	1/8"
B	3/16"
C	1/4"

B "U" Dimension

Specify " U " Length In Inches 0 6

Example "U" is 6" = 06

C "U" Length Fractional

A	0"
B	1/8"
C	3/16"
D	1/4"
E	1/2"
F	5/8"
G	3/4"
H	7/8"

D "B" Dimension

Specify " B " Length In Inches 0 4 8

Example "B" is 48" = 048

E Calibration

	+	−
J	White	Red
K	Yellow	Red
T	Blue	Red

F Junction Styles

Element Description	Grounded	Ungrounded	
	Common	Common	Isolated
Single	G		U
Duplex	D	C	I

G Cable Conductor Description

1	24 Gage, Solid Conductor
2	24 Gage, 7 Stranded Conductors
3	20 Gage, Solid Conductor
4	20 Gage, 7 Stranded Conductors

H Cable Insulation Description

A	Fiberglass Insulation: 950F / 510C
B	Teflon Insulation: 500F / 260C
C	P.V. C. Insulation: 221F / 105C
D	Teflon, Shielded + Drain Wire
E	P.V.C., Shieded + Drain Wire

I Outer Jacket Protection

1	None
2	Stainless Steel Braid
3	Armor Flexible Cable: 0.280" Outside Diameter
4	Armor Flexible Cable 0.210" Outside Diameter

Metal Braid Protection not available on P.V.C insulation cable.

J Termination

A	3 1/2" Split leads & bare ends
B	3 1/2" Split leads & No.10 spade lugs.
C	Standard Male Plug (350 F)
D	Standard Female Jack (350 F)
E	Mini Male Plug (350 F)
F	Mini Female Jack (350 F)

K Termination Options

1	None
2	Bx Connector
3	Cable Clamp

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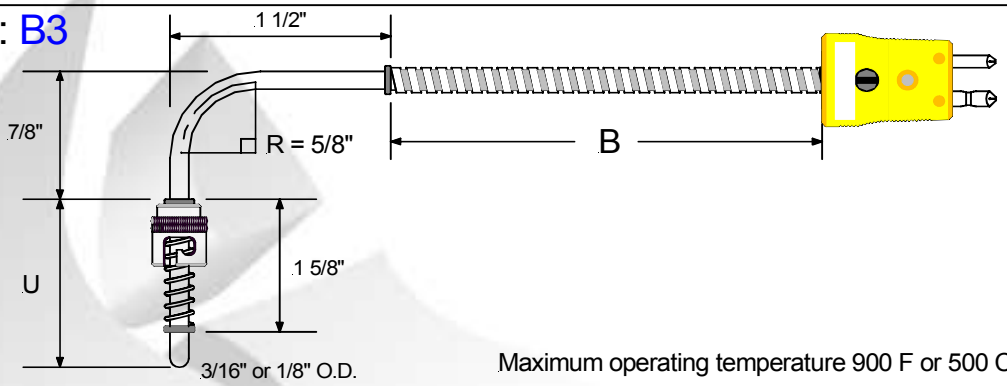
Plastic Industry Thermoc

Fixed Bayonet Style Thermocouple. 90° Bend.

Model Code: B3



Maximum operating temperature 900 F or 500 C.

A	B	C	D	E	F	G	H	I		J	K
B3									—		

A Outside Diameter

A	1/8"
B	3/16"
C	1/4"

B "U" Dimension

Specify " U " Length In Inches 0 6

Example "U" is 6" = 06

C "U" Length Fractional

A	0"
B	1/8"
C	3/16"
D	1/4"
E	1/2"
F	5/8"
G	3/4"
H	7/8"

D "B" Dimension

Specify " B " Length In Inches 0 4 8

Example "B" is 48" = 048

E Calibration

	+	−
J	White	Red
K	Yellow	Red
T	Blue	Red

F Junction Styles

Element Description	Grounded	Ungrounded	
	Common	Common	Isolated
Single	G		U
Duplex	D	C	I

G Cable Conductor Description

1	24 Gage, Solid Conductor
2	24 Gage, 7 Stranded Conductors
3	20 Gage, Solid Conductor
4	20 Gage, 7 Stranded Conductors

H Cable Insulation Description

A	Fiberglass Insulation: 950F / 510C
B	Teflon Insulation: 500F / 260C
C	P.V. C. Insulation: 221F / 105C
D	Teflon, Shielded + Drain Wire
E	P.V.C., Shieded + Drain Wire

I Outer Jacket Protection

1	None
2	Stainless Steel Braid
3	Armor Flexible Cable: 0.280" Outside Diameter
4	Armor Flexible Cable 0.210" Outside Diameter

Metal Braid Protection not available on P.V.C insulation cable.

J Termination

A	3 1/2" Split leads & bare ends
B	3 1/2" Split leads & No.10 spade lugs.
C	Standard Male Plug (350 F)
D	Standard Female Jack (350 F)
E	Mini Male Plug (350 F)
F	Mini Female Jack (350 F)

K Termination Options

1	None
2	Bx Connector
3	Cable Clamp

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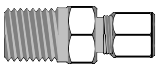
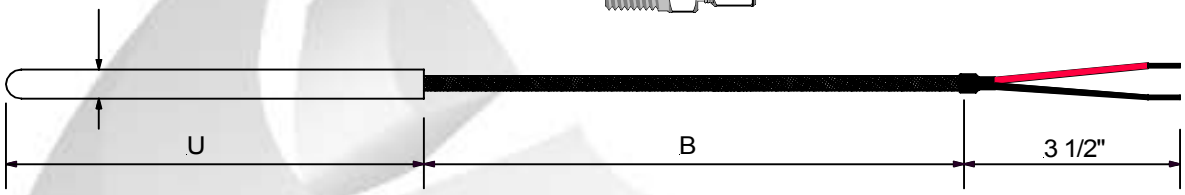
Plastic Industry Thermoc

Tube & Wire General Purpose Thermocouple

Model Code: C1

Compression Fitting (Optional). Item purchased separately





Maximum operating temperature: 900F or 500C

A	B	C	D	E	F	G	H	I		J	K
C1									–		

A Outside Diameter

A	1/8"
B	3/16"
C	1/4"
D	5/16"

B "U" Dimension

Specify " U " Length In Inches 0 6

Example "U" is 6" = 06

C "U" Length Fractional

A	0"
B	1/8"
C	3/16"
D	1/4"
E	1/2"
F	5/8"
G	3/4"
H	7/8"

D "B" Dimension

Specify " B " Length In Inches 0 4 8

Example "B" is 48" = 048

E Calibration

	+	–
J	White	Red
K	Yellow	Red
T	Blue	Red

F Junction Styles

Element Description	Grounded	Ungrounded	
	Common	Common	Isolated
Single	G		U
Duplex	D	C	I

G Cable Conductor Description

1	24 Gage, Solid Conductor
2	24 Gage, 7 Stranded Conductors
3	20 Gage, Solid Conductor
4	20 Gage, 7 Stranded Conductors

H Cable Insulation Description

A	Fiberglass Insulation: 950F / 510C
B	Teflon Insulation: 500F / 260C
C	P.V. C. Insulation: 221F / 105C
D	Teflon, Shielded + Drain Wire
E	P.V.C., Shieded + Drain Wire

I Outer Jacket Protection

1	None
2	Stainless Steel Braid
3	Armor Flexible Cable: 0.280" Outside Diameter
4	Armor Flexible Cable 0.210" Outside Diameter

Metal Braid Protection not available on P.V.C insulation cable.

J Termination

A	3 1/2" Split leads & bare ends
B	3 1/2" Split leads & No.10 spade lugs.
C	Standard Male Plug (350 F)
D	Standard Female Jack (350 F)
E	Mini Male Plug (350 F)
F	Mini Female Jack (350 F)

K Termination Options

1	None
2	Bx Connector
3	Cable Clamp

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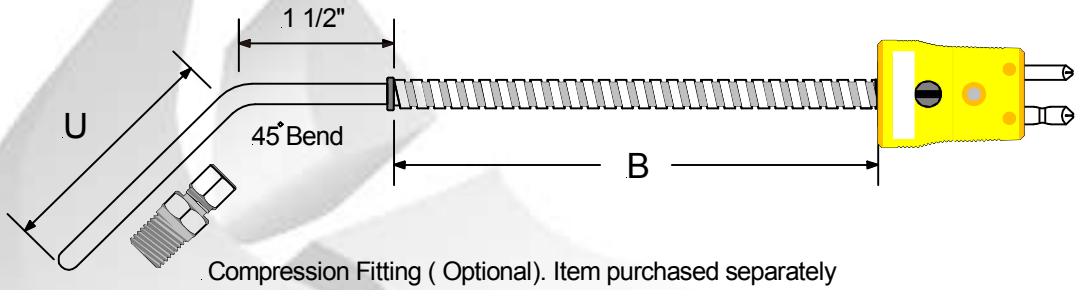
Plastic Industry Thermo

General Purpose Thermocouple-45° Bend

Model Code: C2

Maximum operating temperature: 900F or 500C



Compression Fitting (Optional). Item purchased separately

A	B	C	D	E	F	G	H	I		J	K
C2									–		

A Outside Diameter

A	1/8"
B	3/16"
C	1/4"
D	5/16"

B "U" Dimension

Specify " U " Length In Inches 0 6

Example "U" is 6" = 06

C "U" Length Fractional

A	0"
B	1/8"
C	3/16"
D	1/4"
E	1/2"
F	5/8"
G	3/4"
H	7/8"

D "B" Dimension

Specify " B " Length In Inches 0 4 8

Example "B" is 48" = 048

E Calibration

	+	–
J	White	Red
K	Yellow	Red
T	Blue	Red

F Junction Styles

Element Description	Grounded	Ungrounded	
	Common	Common	Isolated
Single	G		U
Duplex	D	C	I

G Cable Conductor Description

1	24 Gage, Solid Conductor
2	24 Gage, 7 Stranded Conductors
3	20 Gage, Solid Conductor
4	20 Gage, 7 Stranded Conductors

H Cable Insulation Description

A	Fiberglass Insulation: 950F / 510C
B	Teflon Insulation: 500F / 260C
C	P.V. C. Insulation: 221F / 105C
D	Teflon, Shielded + Drain Wire
E	P.V.C., Shieded + Drain Wire

I Outer Jacket Protection

1	None
2	Stainless Steel Braid
3	Armor Flexible Cable: 0.280" Outside Diameter
4	Armor Flexible Cable 0.210" Outside Diameter

Metal Braid Protection not available on P.V.C insulation cable.

J Termination

A	3 1/2" Split leads & bare ends
B	3 1/2" Split leads & No.10 spade lugs.
C	Standard Male Plug (350 F)
D	Standard Female Jack (350 F)
E	Mini Male Plug (350 F)
F	Mini Female Jack (350 F)

K Termination Options

1	None
2	Bx Connector
3	Cable Clamp

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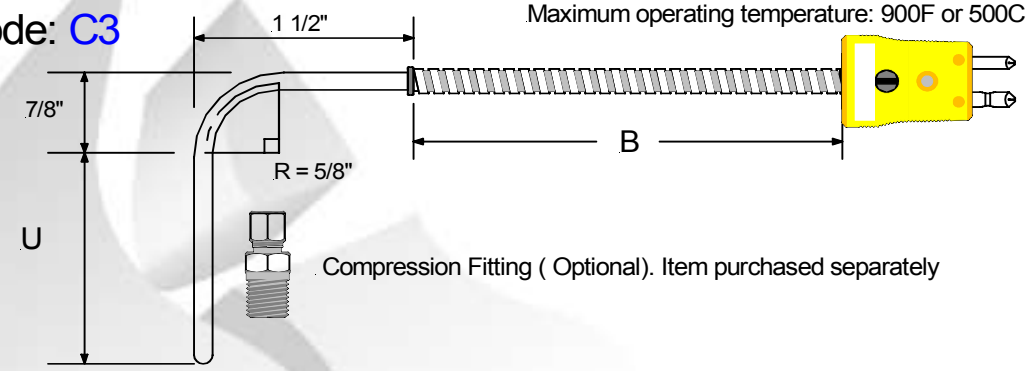
Plastic Industry Thermoc

General Purpose Thermocouple-90° Bend

Model Code: C3



Maximum operating temperature: 900F or 500C

Compression Fitting (Optional). Item purchased separately

	A	B	C	D	E	F	G	H	I		J	K
C3										–		

A Outside Diameter

A	1/8"
B	3/16"
C	1/4"
D	5/16"

B "U" Dimension

Specify " U " Length In Inches 0 6

Example "U" is 6" = 06

C "U" Length Fractional

A	0"
B	1/8"
C	3/16"
D	1/4"
E	1/2"
F	5/8"
G	3/4"
H	7/8"

D "B" Dimension

Specify " B " Length In Inches 0 4 8

Example "B" is 48" = 048

E Calibration

	+	–
J	White	Red
K	Yellow	Red
T	Blue	Red

F Junction Styles

Element Description	Grounded	Ungrounded	
	Common	Common	Isolated
Single	G		U
Duplex	D	C	I

G Cable Conductor Description

1	24 Gage, Solid Conductor
2	24 Gage, 7 Stranded Conductors
3	20 Gage, Solid Conductor
4	20 Gage, 7 Stranded Conductors

H Cable Insulation Description

A	Fiberglass Insulation: 950F / 510C
B	Teflon Insulation: 500F / 260C
C	P.V. C. Insulation: 221F / 105C
D	Teflon, Shielded + Drain Wire
E	P.V.C., Shieded + Drain Wire

I Outer Jacket Protection

1	None
2	Stainless Steel Braid
3	Armor Flexible Cable: 0.280" Outside Diameter
4	Armor Flexible Cable 0.210" Outside Diameter

Metal Braid Protection not available on P.V.C insulation cable.

J Termination

A	3 1/2" Split leads & bare ends
B	3 1/2" Split leads & No.10 spade lugs.
C	Standard Male Plug (350 F)
D	Standard Female Jack (350 F)
E	Mini Male Plug (350 F)
F	Mini Female Jack (350 F)

K Termination Options

1	None
2	Bx Connector
3	Cable Clamp

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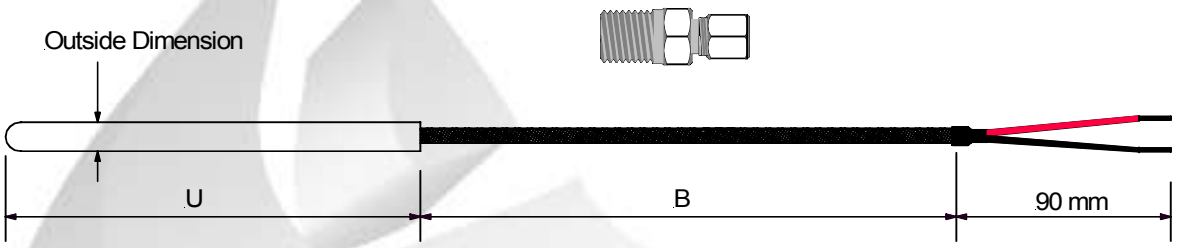
Plastic Industry Thermocc

Metric Size Tube & Wire General Purpose Thermocouple

Model Code: C4

Compression Fitting (Optional). Item purchased separately



Maximum operating temperature: 500C

	A	B	C	D		E		F	G	H		I	J
C4	___	___	___	___	–	___	–	___	___	___	–	___	___

A	Outside Diameter
A	2mm
B	3mm
C	4mm
D	5mm
E	6mm

B	"U" Dimension
Specify " U " Length In mm	1 5 0

Example "U" , is 150mm = 150

C	Calibration	
	+	–
J	White	Red
K	Yellow	Red
T	Blue	Red

D	Junction Styles			
Element Description	Grounded	Ungrounded		
	Common	Common	Isolated	
Single	G		U	
Duplex	D	C	I	

E	"B" Dimension
Specify " B " Length In Meters	0 3

Example "B" is 3 M = 03

F	Cable Conductor Description
1	24 Gage, Solid Conductor
2	24 Gage, 7 Stranded Conductors
3	20 Gage, Solid Conductor
4	20 Gage, 7 Stranded Conductors

G	Cable Insulation Description
A	Fiberglass Insulation: 950F / 510C
B	Teflon Insulation: 500F / 260C
C	P.V. C. Insulation: 221F / 105C
D	Teflon, Shielded + Drain Wire
E	P.V.C., Shieded + Drain Wire

H	Outer Jacket Protection
1	None
2	Stainless Steel Braid
3	Armor Flexible Cable: 7.11mm Outside Diameter
4	Armor Flexible Cable 5.33mm Outside Diameter

Metal Braid Protection not available on P.V.C insulation cable.

I	Termination
A	90mm Split leads & bare ends
B	90mm Split leads & No.10 spade lugs.
C	Standard Male Plug (218 C)
D	Standard Female Jack (218 C)
E	Mini Male Plug (218 C)
F	Mini Female Jack (218 C)

J	Termination Options
1	None
2	Bx Connector
3	Cable Clamp

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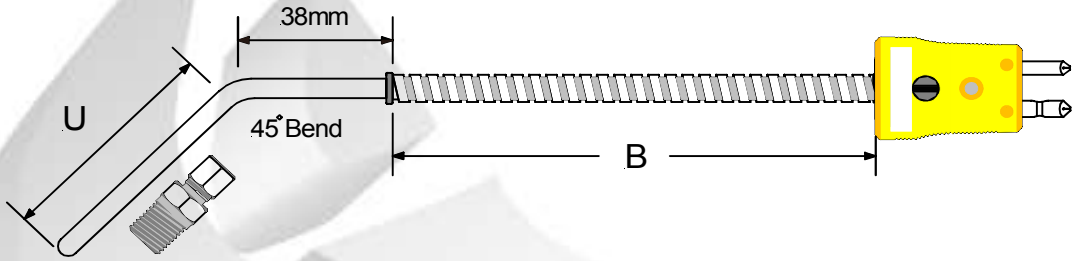
Plastic Industry Thermo

Metric General Purpose Thermocouple-45° Bend

Model Code: C5

Maximum operating temperature: 500C



Compression Fitting (Optional). Item purchased separately

	A	B	C	D		E		F	G	H		I	J
C5	___	___	___	___	–	___	–	___	___	___	–	___	___

A Outside Diameter

A	2mm
B	3mm
C	4mm
D	5mm
E	6mm

B "U" Dimension

Specify " U " Length
In mm 1 5 0

Example "U" ,
is 150mm = 150

C Calibration

	+	–
J	White	Red
K	Yellow	Red
T	Blue	Red

D Junction Styles

Element Description	Grounded	Ungrounded	
	Common	Common	Isolated
Single	G		U
Duplex	D	C	I

E "B" Dimension

Specify " B " Length
In Meters 0 3

Example "B" is 3 M = 03

F Cable Conductor Description

1	24 Gage, Solid Conductor
2	24 Gage, 7 Stranded Conductors
3	20 Gage, Solid Conductor
4	20 Gage, 7 Stranded Conductors

G Cable Insulation Description

A	Fiberglass Insulation: 950F / 510C
B	Teflon Insulation: 500F / 260C
C	P.V. C. Insulation: 221F / 105C
D	Teflon, Shielded + Drain Wire
E	P.V.C., Shieded + Drain Wire

H Outer Jacket Protection

1	None
2	Stainless Steel Braid
3	Armor Flexible Cable: 7.11mm Outside Diameter
4	Armor Flexible Cable 5.33mm Outside Diameter

Metal Braid Protection not available on P.V.C insulation cable.

I Termination

A	90mm Split leads & bare ends
B	90mm Split leads & No.10 spade lugs.
C	Standard Male Plug (218 C)
D	Standard Female Jack (218 C)
E	Mini Male Plug (218 C)
F	Mini Female Jack (218 C)

J Termination Options

1	None
2	Bx Connector
3	Cable Clamp

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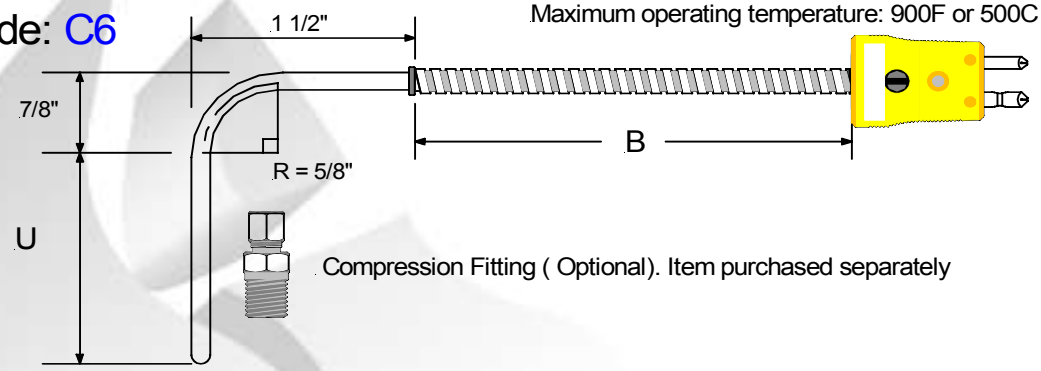
Plastic Industry Thermo

Metric General Purpose Thermocouple-90° Bend

Model Code: C6



A	B	C	D		E		F	G	H		I	J
C6				–		–				–		

A Outside Diameter

A	2mm
B	3mm
C	4mm
D	5mm
E	6mm

B "U" Dimension

Specify " U " Length In mm 1 5 0

Example "U" , is 150mm = 150

C Calibration

	+	–
J	White	Red
K	Yellow	Red
T	Blue	Red

D Junction Styles

Element Description	Grounded	Ungrounded	
	Common	Common	Isolated
Single	G		U
Duplex	D	C	I

E "B" Dimension

Specify " B " Length In Meters 0 3

Example "B" is 3 M = 03

F Cable Conductor Description

1	24 Gage, Solid Conductor
2	24 Gage, 7 Stranded Conductors
3	20 Gage, Solid Conductor
4	20 Gage, 7 Stranded Conductors

G Cable Insulation Description

A	Fiberglass Insulation: 950F / 510C
B	Teflon Insulation: 500F / 260C
C	P.V. C. Insulation: 221F / 105C
D	Teflon, Shielded + Drain Wire
E	P.V.C., Shieded + Drain Wire

H Outer Jacket Protection

1	None
2	Stainless Steel Braid
3	Armor Flexible Cable: 7.11mm Outside Diameter
4	Armor Flexible Cable 5.33mm Outside Diameter

Metal Braid Protection not available on P.V.C insulation cable.

I Termination

A	90mm Split leads & bare ends
B	90mm Split leads & No.10 spade lugs.
C	Standard Male Plug (218 C)
D	Standard Female Jack (218 C)
E	Mini Male Plug (218 C)
F	Mini Female Jack (218 C)

J Termination Options

1	None
2	Bx Connector
3	Cable Clamp

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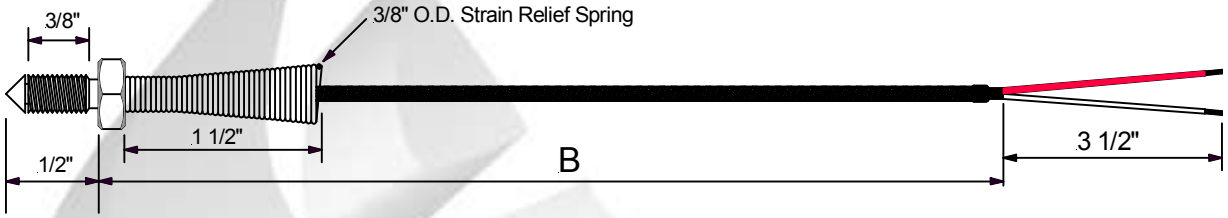
Plastic Industry Thermo

Nozzle Bolt Style Thermocouple

Model Code: D1

Maximum operating temperature: 900F or 500C



Steps: 1. 2. 3. 4. — 5. — 6. 7.

Model: D1 [ ] [ ] [ ] [ ] — [ ][ ][ ] — [ ] [ ]

1. Nozzle Bolt Thread Size	
1	1/4" x 28 UNF
2	M6 x 1mm
3	M8 x 1mm
4	M8 x 1.25mm

2. Wire Description	
S	20 Gage Stranded Stainless Steel Braid
X	Flexible Armor Cable
F	20 Gage Stranded Fiberglass Cable
T	20 Gage Stranded Teflon Cable

3. Calibration	
J	(+) Iron Vs. (-) Constantan
K	(+) Ni.-Chromium Vs. (-) Ni.-Aluminum

4. Junction	
G	Grounded
U	Ungrounded

5. "B" Dimension
"B"= 0 4 8 "
Leads Wire Length In Inches

6. Termination Type	
A	3" Split Leads & 1/2" Bare Ends.
B	3" Slip Leads & No.10 Spade Lugs
C	Standard Male Plug
D	Standard Female Jack
E	Mini Male Plug
F	Mini Female Jack

7. Accessories	
1	None
2	Bx Connector
3	Cable Clamp

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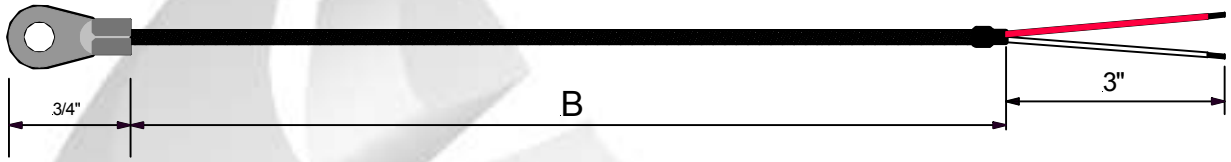
Plastic Industry Thermo

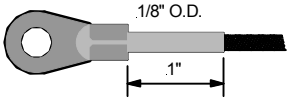
Ring Terminal Style Thermocouple

Model Code: E1

Maximum operating temperature: 900F or 500C



Unground Style Configeration



Steps: 1. 2. 3. 4. – 5. – 6. 7.

Model: E1 [ ] [ ] [ ] [ ] – [ ][ ][ ] – [ ] [ ]

1. Ring Terminal Hole Size

1	No. 8 Ring Terminal
2	No. 10 Ring Terminal
3	1/4" I.D. Hole Ring Terminal
4	1/2" I.D. Hole Ring Terminal

2. Wire Description

S	20 Gage Stranded Stainless Steel Braid
X	Flexible Armor Cable
F	20 Gage Stranded Fiberglass Cable
T	20 Gage Stranded Teflon Cable

3. Calibration

J	(+) Iron Vs. (-) Constantan
K	(+) Ni.-Chromium Vs. (-) Ni.-Aluminum
T	(+) Copper Vs. (-) Copper-Nickel

4. Junction

G	Grounded
U	Ungrounded

5. "B" Dimension

"B"= 0 4 8 "

Leads Wire Length In Inches

6. Termination Type

A	3" Split Leads & 1/2" Bare Ends.
B	3" Slip Leads & No.10 Spade Lugs
C	Standard Male Plug
D	Standard Female Jack
E	Mini Male Plug
F	Mini Female Jack

7. Accessories

1	None
2	Bx Connector
3	Cable Clamp

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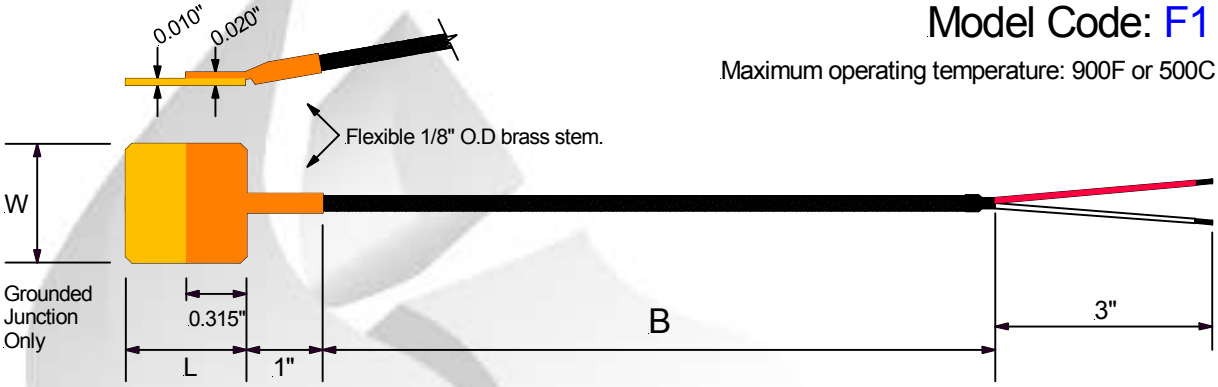
Plastic Industry Thermc

Shim Stock Style Thermocouple. Brass Shim



Model Code: F1

Maximum operating temperature: 900F or 500C

Steps: 1. 2. 3. – 4. – 5. 6.

Model: F1 [ ] [ ] [ ] – [ ] – [ ] [ ]

1. Shim Size: Width x Length

1	1/2" x 1/2"
2	3/4" x 3/4"
3	3/4" x 7/8"
4	1" x 1"

2. Wire Description

S	20 Gage, Stranded, Stainless Steel Braid
F	20 Gage, Stranded, Fiberglass Cable

3. Calibration

J	(+) Iron Vs. (-) Constantan
K	(+) Ni.-Chromium Vs. (-) Ni.-Aluminum

4. "B" Dimension

"B"= 0 4 8 "

Leads Wire Length In Inches

5. Termination Type

A	3" Split Leads & 1/2" Bare Ends.
B	3" Slip Leads & No. 10 Spade Lugs
C	Standard Male Plug
D	Standard Female Jack
E	Mini Male Plug
F	Mini Female Jack

6. Accessories

1	None
2	Cable Clamp

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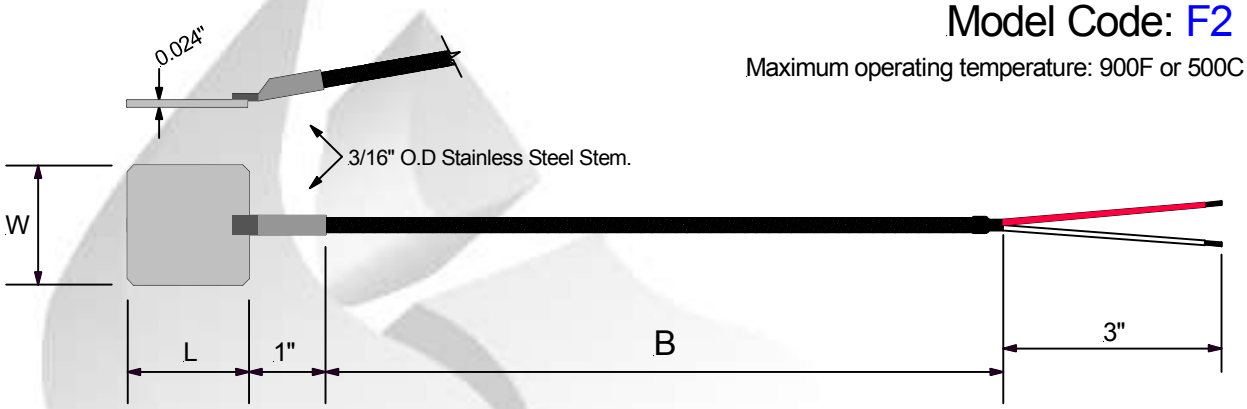
Plastic Industry Thermc

Shim Stock Style Thermocouple. Stainless Steel Shim

Model Code: F2

Maximum operating temperature: 900F or 500C



Steps:

	1.	2.	3.		4.		5.	6.	7.
Model: F2				–		–			

1. Shim Size: Width x Length

1	1/2" x 1/2"
2	3/4" x 3/4"
3	3/4" x 7/8"
4	1" x 1"

2. Wire Description

S	20 Gage, Stranded, Stainless Steel Braid
F	20 Gage, Stranded, Fiberglass Cable
X	Flexible Armor Cable

3. Calibration

J	(+) Iron Vs. (-) Constantan
K	(+) Ni.-Chromium Vs. (-) Ni.-Aluminum

4. "B" Dimension

"B"= 0 4 8 "

Leads Wire Length In Inches

5. Junction

G	Grounded
U	Ungrounded

6. Termination Type

0	3" Split Leads & 1/2" Bare Ends.
1	3" Slip Leads & No.10 Spade Lugs
2	Standard Male Plug
3	Standard Female Jack
4	Mini Male Plug
5	Mini Female Jack

7. Accessories

A	None
B	Bx Connector
C	Cable Clamp

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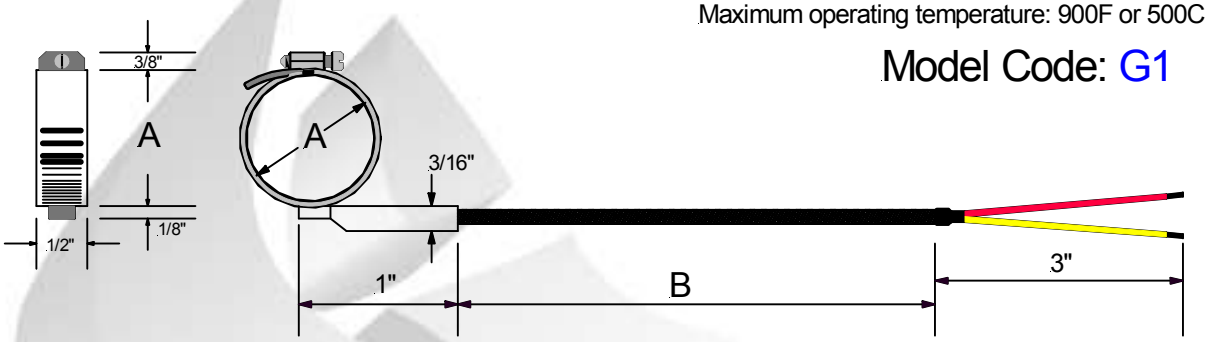
Plastic Industry Thermo

Pipe Clamp Style Thermocouple

Maximum operating temperature: 900F or 500C

Model Code: G1



Steps To Follow:

	1.	2.	3.		4.		5.	6.
Model No. G1				–		–		

1. Pipe Clamp Description

A= Diameter Range

	Minimum	Maximum
1	1 1/16"	2"
2	1 13/16"	2 3/4"
3	2 9/16"	3 1/2"
4	3"	5"
5	5"	7"

2. Wire Description

S	20 Gage Stranded Stainless Steel Braid
X	Flexible Armor Cable
F	20 Gage Stranded Fiberglass Cable

3. Calibration

J	(+) Iron Vs. (-) Constantan
K	(+) Ni.-Chromium Vs. (-) Ni.-Aluminum

4. "B" Dimension

"B"= 0 4 8 "

Leads Wire Length In Inches

5. Termination Type

A	3" Split Leads & 1/2" Bare Ends.
B	3" Slip Leads & Spade Lugs
C	Standard Male Plug
D	Standard Female Jack
E	Mini Male Plug
F	Mini Female Jack

6. Accessories

1	None
2	Bx Connector
3	Cable Clamp

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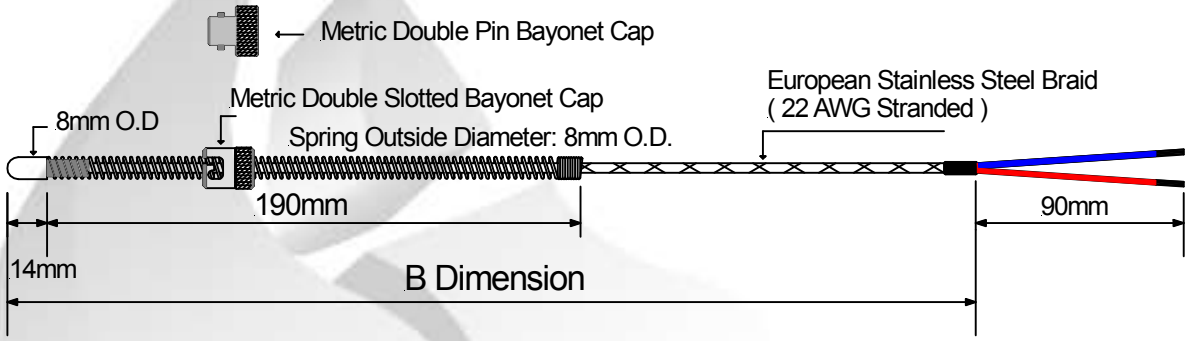
Plastic Industry Thermoc

European Adjustable Bayonet

Model Code: H1

Maximum operating temperature: 900F or 500C



Steps To Follow:

Model: H1 [1.] [2.] [3.] – [4.] – [5.] [6.]

1. Probe Tip Description

R	Radius Tip Style
F	Flat Tip Style

2. Bayonet Cap Option

1	M12 Bayonet Cap
2	M14 Bayonet Cap
3	M16 Bayonet Cap
4	Double Pin Bayonet Cap

3. Termination Type

A	3 1/2" Split Leads & 1/2" Bare Ends.
B	3 1/2" Split Leads & Pin Connectors
C	Standard Male Plug
D	Standard Female Jack
E	Mini Male Plug
F	Mini Female Jack

4. "B" Dimension

"B"= ___ " Length In Inches OR "B"= ___ Length In Meters

5. Calibration

J	(+) Iron Vs. (-) Constantan
K	(+) Ni.-Chromium Vs. (-) Ni.-Aluminum

6. Junction Styles

	Grounded	Ungrounded
Single	G	U
Dual	D	Y

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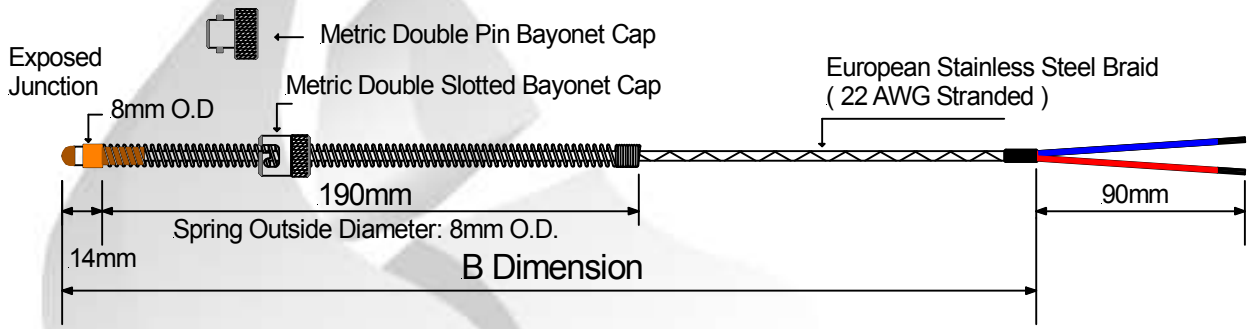
Plastic Industry Thermoc

European Adjustable Bayonet , Exposed Brass Tip Style

Model Code: H2

Maximum operating temperature: 900F or 500C



Steps To Follow:

Model: H2 [1.] [2.] – [3.] – [4.]

1. Bayonet Cap Option	
1	M12 Bayonet Cap
2	M14 Bayonet Cap
3	M16 Bayonet Cap
4	Double Pin Bayonet Cap

3. "B" Dimension			
"B"= 048"	Length In Inches	OR	"B"= 3M Length In Meters

2. Termination Type	
A	3 1/2" Split Leads & 1/2" Bare Ends.
B	3 1/2" Split Leads & Pin Connectors
C	Standard Male Plug
D	Standard Female Jack
E	Mini Male Plug
F	Mini Female Jack

4. Calibration	
J	(+) Iron Vs. (-) Constantan
K	(+) Ni.-Chromium Vs. (-) Ni.-Aluminum

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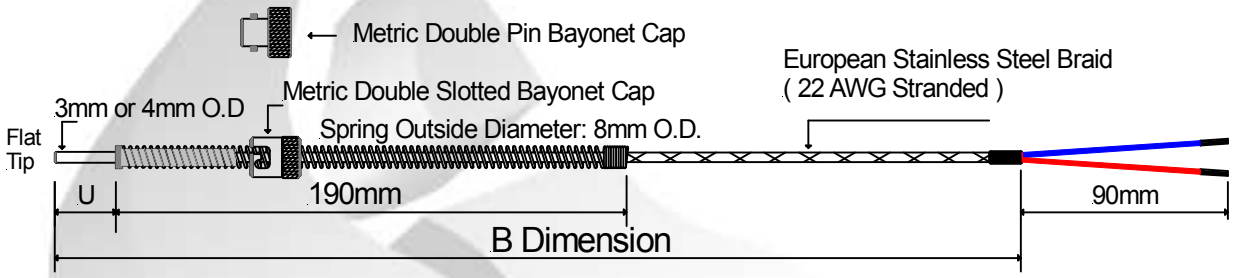
Plastic Industry Thermoc .

European Fixed Adjustable Bayonet

Model Code: H3

Maximum operating temperature: 900F or 500C



Steps To Follow:

Model: H3 [1.] – [2.] – [3.] – [4.] – [5.] [6.] [7.]

1. Probe Tip Diameter	
A	3mm Outside Diameter
B	4mm Outside Diameter

2. "U" Dimension
"U"= 25 mm
Length In MM

3. Bayonet Cap Option	
A	M12 Bayonet Cap
B	M14 Bayonet Cap
C	M16 Bayonet Cap
D	Double Pin Bayonet Cap

4. "B" Dimension		
"B"= 048"	OR	"B"= 3M
Length In Inches		Length In Meters

5. Termination Type	
A	3 1/2" Split Leads & 1/2" Bare Ends.
B	3 1/2" Split Leads & Pin Connectors
C	Standard Male Plug
D	Standard Female Jack
E	Mini Male Plug
F	Mini Female Jack

6. Calibration	
J	(+) Iron Vs. (-) Constantan
K	(+) Ni.-Chromium Vs. (-) Ni.-Aluminum

7. Junction Styles	Grounded	Ungrounded
Single	G	U
Dual	D	Y

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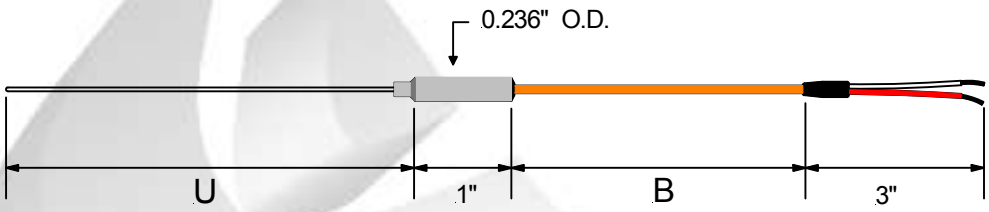
Mineral Insulated Thermo

Hot Runner Style Thermocouple

Model Code: J1

Maximum operating temperature: 900F or 500C



Compression fittings are sold seperatly. See accessory section.

Model: **J1** [A] [B] [C] [D] [E] [F] — [G] [H] [I]

A	Outside Diameter
1	0.020" = 0.5mm
2	0.032"
3	0.040" = 1mm
4	0.059" = 1.5mm
5	0.063"

B	Sheath Material
A	304 Stainless
B	316 Stainless
C	Inconel 600

C	"U" Dimension
Specify " U " Length In Inches	0 0 6

Example "U" is 6" = 006

D	"U" Fractional Dimension
A	0.125"
B	0.188"
C	0.250"
D	0.315"
E	0.375"
F	0.500"
G	0.625"
H	0.750"
I	0.875"
N	None

E	Calibration		
	Standard Limits of Error		Special Limits of Error
1	J	6	J
2	K	7	K
3	T	8	T
4	E	9	E
5	N	10	N

F	Junction Styles		
Element Description	Grounded	Ungrounded	
	Common	Common	Isolated
Single	G		U
Duplex	D	F	H

G	"B" Dimension
Specify " B " Length In Inches	0 4 8

Example "B" is 48" = 048

H	Cable Insulation Description
A	24 Gage, Stranded, Kapton
B	24 Gage, Solid, Kapton
C	24 Gage, Stranded, Teflon
D	24 Gage, Solid, Teflon
E	24 Gage, Stranded, Fiberglass
F	24 Gage, Solid, Fiberglass

I	Termination
1	3" Split Leads & 1/2" bare ends.
2	3" Split Leads & Spade Lugs.
3	Standard Male Plug (425 F)
4	Standard Female Jack (425 F)
5	Mini Male Plug (425 F)
6	Mini Female Jack (425 F)
7	Hi Temp. Male Plug (800 F)
8	Hi Temp. Female Jack (800 F)

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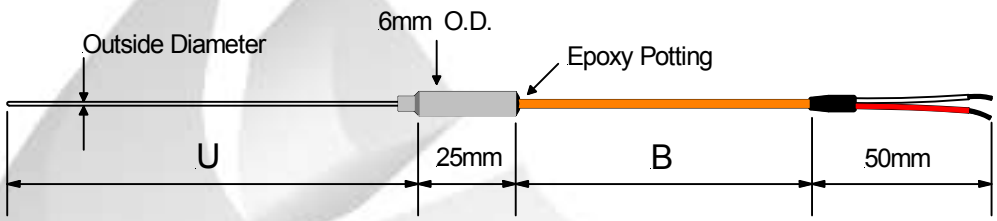
Mineral Insulated Thermo

Metric Hot Runner Style Thermocouple

Model Code: J2

Maximum operating temperature: 500F or 260C



Compression fittings are sold seperatly. See accessory section.

Model: **J2** [A] [B] [C] — [D] [E] — [F] [G] [H]

A	Outside Diameter
1	0.5mm
2	1mm
3	1.5mm

B	Sheath Material
A	304 Stainless
B	316 Stainless
C	Inconel 600

C	"U" Dimension
Specify " U " Length In mm	1 5 0

Example "U" is 150mm = 150

D	Calibration		
	Standard Limits of Error		Special Limits of Error
1	J	6	J
2	K	7	K
3	T	8	T
4	E	9	E
5	N	10	N

E	Junction Styles		
Element Description	Grounded	Ungrounded	
	Common	Common	Isolated
Single	G		U
Duplex	D	F	H

F	"B" Dimension
Specify " B " Length In Meters	0 2

Example "B" is 2M = 02

G	Cable Insulation Description
A	24 Gage, Stranded, Kapton
B	24 Gage, Solid, Kapton
C	24 Gage, Stranded, Teflon
D	24 Gage, Solid, Teflon
E	24 Gage, Stranded, Fiberglass
F	24 Gage, Solid, Fiberglass

H	Termination
1	50mm Split Leads,15mm bare ends.
2	50mm Split Leads & Spade Lugs.
3	Standard Male Plug (425 F)
4	Standard Female Jack (425 F)
5	Mini Male Plug (425 F)
6	Mini Female Jack (425 F)
7	Hi Temp. Male Plug (800 F)
8	Hi Temp. Female Jack (800 F)

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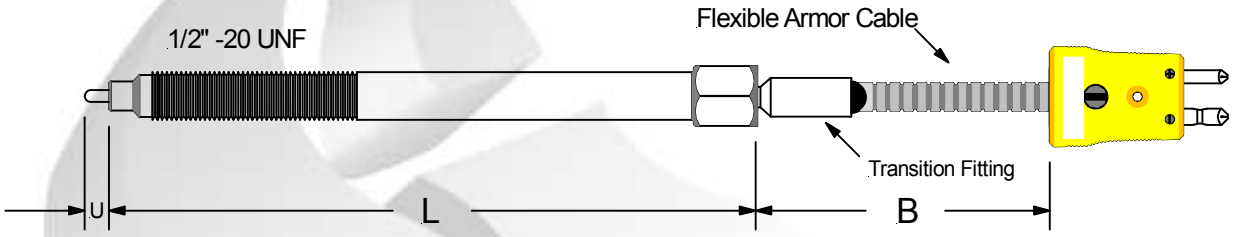
Plastic Industry Thermoc

Melt Bolt Thermocouple. Mineral Insulated

Model Code: K1

Operating Temperature: -200 C to +500 C



Steps:

	A	B	C		D	E		F	G	H
Model	K1			—			—			

A	Melt Bolt Length " L "
3	3"
4	4"
6	6"

B	"U" Tip Diameter
F	Flush Tip
A	0.125"
B	0.188"
C	0.250"

C	Insertion Depth " U "
1	Flush
2	0.125"
3	0.250"
4	0.500"
5	0.750"
6	1"

D	Calibration		
	Standard Limits of Error		Special Limits of Error
1	J	6	J
2	K	7	K
3	T	8	T
4	E	9	E
5	N	10	N

F	"B" Dimension
Specify " B " Length In Inches	0 4 8

Example "B" is 048 =48"

E	Junction Styles			
Element Description	Grounded	Ungrounded		
	Common	Common	Isolated	
Single	G		U	
Duplex	D	F	H	

G	Termination
A	3" Split leads, 1/2" bare ends.
B	3" Split leads & No. 10 spade lugs.
C	Standard Male Plug (350 F)
D	Standard Female Jack (350 F)
E	Mini Male Plug (350 F)
F	Mini Female Jack (350 F)

H	Termination Options
1	None
2	Bx Connector
3	Cable Clamp

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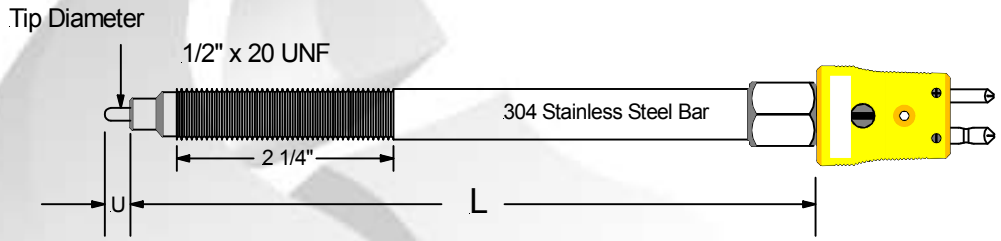
Plastic Industry Thermoc

Rigid Melt Bolt Thermocouple. Mineral Insulated

Model Code: K2

Operating Temperature: -200 C to +500 C



Steps: A B C – D E – F

Model K2 ___ ___ ___ – ___ ___ – ___

A	Melt Bolt Length " L "
3	3"
4	4"
6	6"

B	"U" Tip Diameter
F	Flush Tip
A	0.125"
B	0.188"
C	0.250"

C	Insertion Depth " U "
1	Flush
2	0.125"
3	0.250"
4	0.500"
5	0.750"
6	1"

D	Calibration		
	Standard Limits of Error		Special Limits of Error
1	J	6	J
2	K	7	K
3	T	8	T
4	E	9	E
5	N	10	N

E	Junction Styles		
Element Description	Grounded	Ungrounded	
	Common	Common	Isolated
Single	G		U
Duplex	D	F	H

F	Termination
1	Standard Male Plug (350 F)
2	Standard Female Jack (350 F)
3	Mini Male Plug (350 F)
4	Mini Female Jack (350 F)

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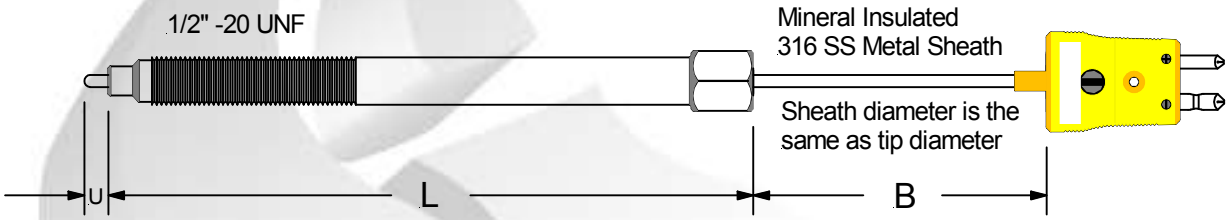
Plastic Industry Thermoc

Fixed Melt Bolt Thermocouple. Mineral Insulated

Model Code: K3

Operating Temperature: -200 C to +500 C



Steps:

Model K3 [A] [B] [C] – [D] [E] – [F] [G]

A	Melt Bolt Length " L "
3	3"
4	4"
6	6"

B	"U" Tip Diameter
F	Flush Tip
A	0.125"
B	0.188"
C	0.250"

C	Insertion Depth " U "
1	Flush
2	0.125"
3	0.250"
4	0.500"
5	0.750"
6	1"

D	Calibration		
	Standard Limits of Error		Special Limits of Error
1	J	6	J
2	K	7	K
3	T	8	T
4	E	9	E
5	N	10	N

E	Junction Styles			
Element Description	Grounded	Ungrounded		
	Common	Common	Isolated	
Single	G		U	
Duplex	D	F	M	

F	"B" Dimension
Specify " B " Length In Inches	0 4

Example "B" is 04 = 4"

G	Termination
A	Standard Male Plug.
B	Standard Female Jack.
C	Mini Male Plug.
D	Mini Female Jack.

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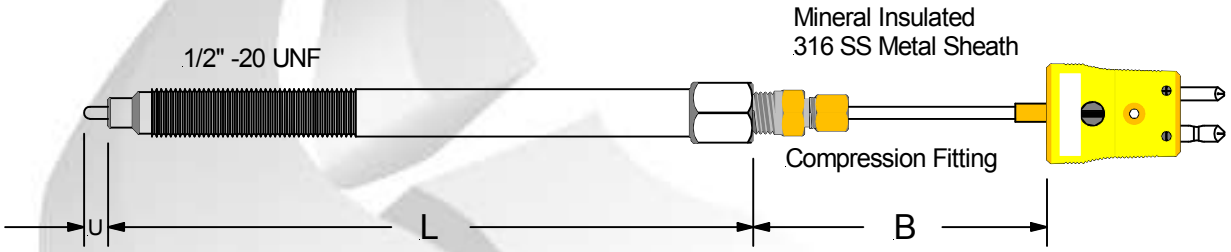
Plastic Industry Thermoc

Adjustable Melt Bolt Thermocouple. Mineral Insulated

Model Code: K4

Operating Temperature: -200 C to +500 C



Steps: A B C – D E – F G

Model K4 [ ] [ ] [ ] – [ ] [ ] – [ ] [ ]

A	Melt Bolt Length " L "
3	3"
4	4"
6	6"

B	"U" Tip Diameter
F	Flush Tip
A	0.125"
B	0.188"
C	0.250"

C	Insertion Depth " U "
1	Flush
2	0.125"
3	0.250"
4	0.500"
5	0.750"
6	1"

D	Calibration		
	Standard Limits of Error		Special Limits of Error
1	J	6	J
2	K	7	K
3	T	8	T
4	E	9	E
5	N	10	N

E	Junction Styles		
Element Description	Grounded	Ungrounded	
	Common	Common	Isolated
Single	G		U
Duplex	D	F	H

F	"B" Dimension
Specify " B " Length In Inches	0 4

Example "B" is 04" = 4"

G	Termination
A	Standard Male Plug.
B	Standard Female Jack.
C	Mini Male Plug.
D	Mini Female Jack.

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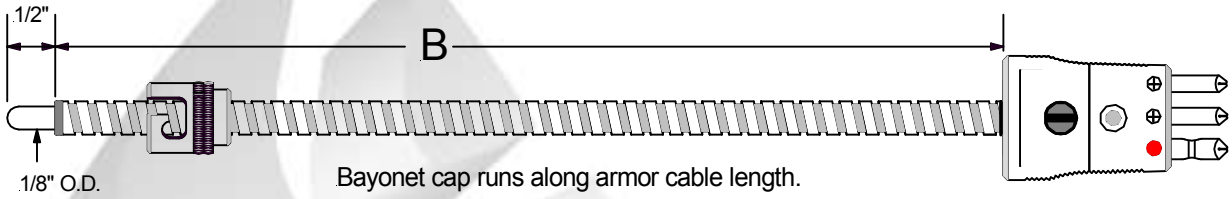
Plastic Industry RTD

Miniature Adjustable Bayonet Style RTD

Armor cable outside diameter: 0.210"

Operating Temperature: -200 C to +250 C



Steps To Follow:

Model: 1A [1.] [2.] - [3.] - [4.] [5.]

1. Termination Type

0	3" Split Leads & 1/2" Bare Ends.
1	3" Slip Leads & Spade Lugs
2	Standard Male Plug (2 & 3 Wire config. only)
3	Standard Female Jack (2 & 3 Wire config. only)
4	Mini Male Plug (2 & 3 Wire config. only)
5	Mini Female Jack (2 & 3 Wire config. only)

2. Accessories

N	None
X	Bx Connector
C	Cable Clamp

3. "B" Dimension

"B"= 0 4 8 "

Leads Wire Length In Inches

4. RTD Element Type

Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

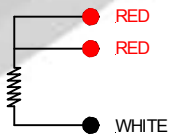
Temperature Coefficient: 0.00385
Platinum element
IEC 751

5. RTD Wire Connection

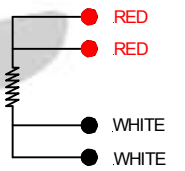
2	2 Wire Configuration
3	3 Wire Configuration
4	4 Wire Configuration

2 Wire Configuration

3 Wire Configuration



4 Wire Configuration



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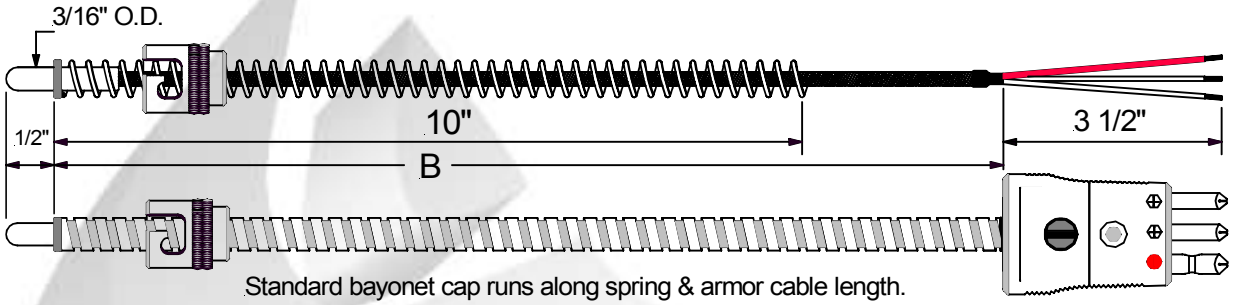
Plastic Industry RTD

Adjustable Bayonet Style RTD

Low temperature application



Standard bayonet cap runs along spring & armor cable length.

Operating Temperature: -200 C to +250 C

2A [1.] [2.] [3.] - [4.] - [5.] [6.]

1. Wire Description

S	24 Gage Stranded Stainless Steel Braid
X	Flexible Armor Cable
F	24 Gage Stranded Fiberglass Cable
T	24 Gage Stranded Teflon Cable

2. Termination Type

0	3" Split Leads & 1/2" Bare Ends.	
1	3" Slip Leads & Spade Lugs	
2	Standard Male Plug	(2 & 3 Wire config. only)
3	Standard Female Jack	(2 & 3 Wire config. only)
4	Mini Male Plug	(2 & 3 Wire config. only)
5	Mini Female Jack	(2 & 3 Wire config. only)

3. Accessories

N	None
X	Bx Connector
C	Cable Clamp

4. "B" Dimension

"B"= 0 4 8 "

Leads Wire Length In Inches

5. RTD Element Type

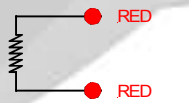
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385
Platinum element
IEC 751

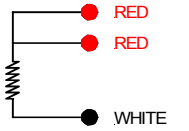
6. RTD Wire Connection

2	2 Wire Configuration
3	3 Wire Configuration
4	4 Wire Configuration

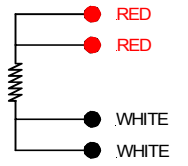
2 Wire Configuration



3 Wire Configuration



4 Wire Configuration



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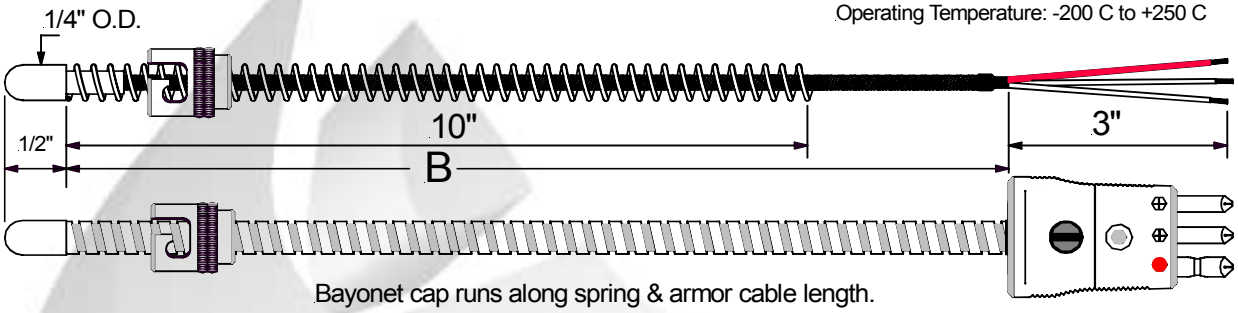
Plastic Industry RTI

1/4" Diameter Adjustable Bayonet Style RTD

Operating Temperature: -200 C to +250 C



Bayonet cap runs along spring & armor cable length.

Steps To Follow:

Model: 3A [1.] [2.] [3.] - [4.] - [5.] [6.]

1. Wire Description

S	24 Gage Stranded Stainless Steel Braid
X	Flexible Armor Cable
F	24 Gage Stranded Fiberglass Cable
T	24 Gage Stranded Teflon Cable

2. Termination Type

0	3" Split Leads & 1/2" Bare Ends.	
1	3" Slip Leads & Spade Lugs	
2	Standard Male Plug	(2 & 3 Wire config. only)
3	Standard Female Jack	(2 & 3 Wire config. only)
4	Mini Male Plug	(2 & 3 Wire config. only)
5	Mini Female Jack	(2 & 3 Wire config. only)

3. Accessories

N	None
X	Bx Connector
C	Cable Clamp

4. "B" Dimension

"B"= 0 4 8 "

Leads Wire Length In Inches

5. RTD Element Type

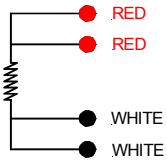
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385
Platinum element
IEC 751

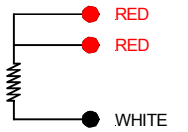
6. RTD Wire Connection

2	2 Wire Configuration
3	3 Wire Configuration
4	4 Wire Configuration

2 Wire Configuration



3 Wire Configuration



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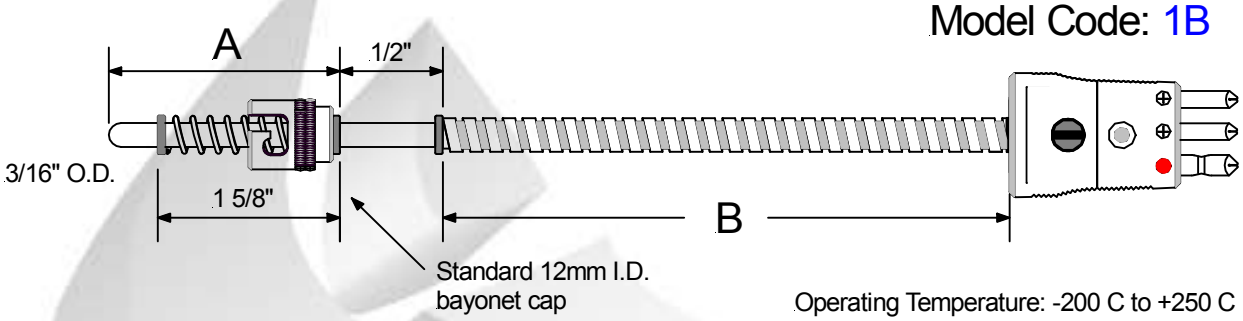
Plastic Industry RTD

Fixed Bayonet Style RTD. Low temperature application

Model Code: 1B



Operating Temperature: -200 C to +250 C

Steps To Follow:

Model: 1B [1.] [2.] [3.] [4.] [5.] [6.] [7.]

1. "A" Dimension

"A"= 0 2 "

Insertion Length In Inches

2. RTD Element Type

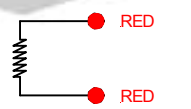
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385
Platinum element
IEC 751

3. RTD Wire Connection

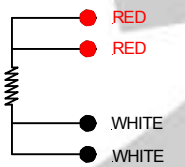
A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

2 Wire Configuration



3 Wire Configuration

4 Wire Configuration



4. Wire Description

S	24 Gage Stranded Stainless Steel Braid
X	Flexible Armor Cable
F	24 Gage Stranded Fiberglass Cable
T	24 Gage Stranded Teflon Cable

5. "B" Dimension

"B"= 0 4 8 "

Leads Wire Length In Inches

6. Termination Type

A	3" Split Leads & 1/2" Bare Ends.	
B	3" Slip Leads & Spade Lugs	
C	Standard Male Plug	(2 & 3 Wire config. only)
D	Standard Female Jack	(2 & 3 Wire config. only)
E	Mini Male Plug	(2 & 3 Wire config. only)
F	Mini Female Jack	(2 & 3 Wire config. only)

7. Accessories

1	None
2	Bx Connector
3	Cable Clamp

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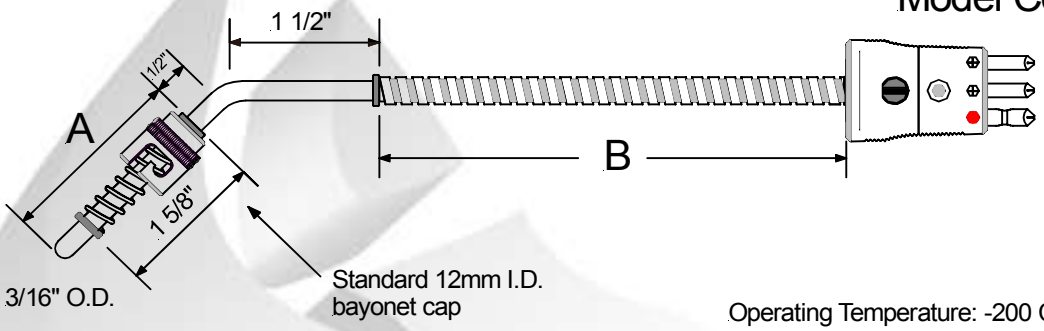
Plastic Industry RTD's

Fixed Bayonet Style RTD. 45° Bend

Low temperature application

Model Code: 2B



Operating Temperature: -200 C to +250 C

Steps To Follow:

Model: 2B [1.] [2.] [3.] [4.] [5.] [6.] [7.]

1. "A" Dimension

"A"= 0 2 "

Insertion Length In Inches

2. RTD Element Type

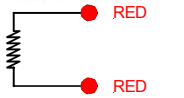
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385
Platinum element
IEC 751

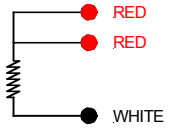
3. RTD Wire Connection

A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

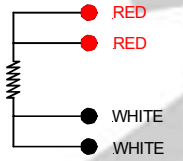
2 Wire Configuration



3 Wire Configuration



4 Wire Configuration



4. Wire Description

S	24 Gage Stranded Stainless Steel Braid
X	Flexible Armor Cable
F	24 Gage Stranded Fiberglass Cable
T	24 Gage Stranded Teflon Cable

5. "B" Dimension

"B"= 0 4 8 "

Leads Wire Length In Inches

6. Termination Type

A	3" Split Leads & 1/2" Bare Ends.
B	3" Slip Leads & Spade Lugs
C	Standard Male Plug (2 & 3 Wire config. only)
D	Standard Female Jack (2 & 3 Wire config. only)
E	Mini Male Plug (2 & 3 Wire config. only)
F	Mini Female Jack (2 & 3 Wire config. only)

7. Accessories

1	None
2	Bx Connector
3	Cable Clamp

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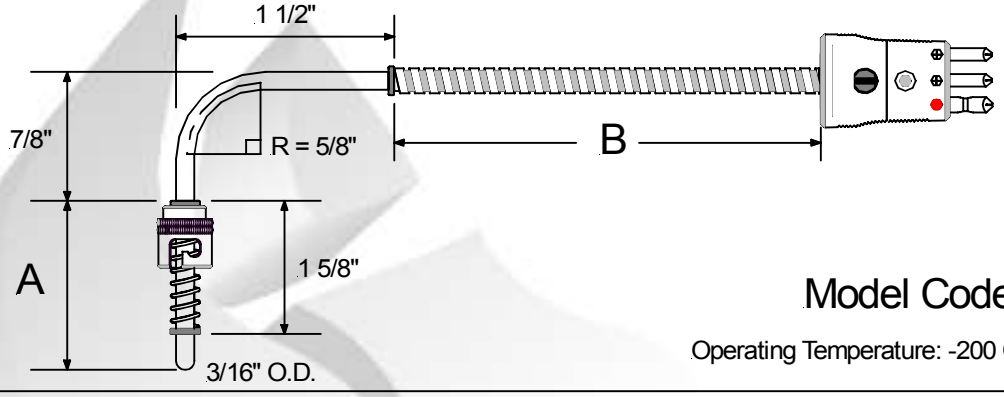
Plastic Industry RTD's

Fixed Bayonet Style RTD, 90° Bend

Low temperature application



Model Code: 3B

Operating Temperature: -200 C to +250 C

Steps To Follow:

Model: 3B [1.] [2.] - [3.] [4.] [5.] - [6.] [7.]

1. "A" Dimension

"A"= 0 2 "

Insertion Length In Inches

2. RTD Element Type

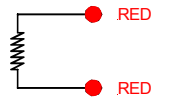
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385
Platinum element
IEC 751

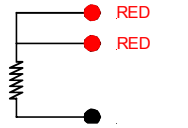
3. RTD Wire Connection

A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

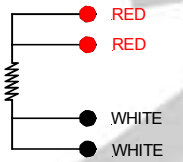
2 Wire Configuration



3 Wire Configuration



4 Wire Configuration



4. Wire Description

S	24 Gage Stranded Stainless Steel Braid
X	Flexible Armor Cable
F	24 Gage Stranded Fiberglass Cable
T	24 Gage Stranded Teflon Cable

5. "B" Dimension

"B"= 0 4 8 "

Leads Wire Length In Inches

6. Termination Type

A	3" Split Leads & 1/2" Bare Ends.	
B	3" Slip Leads & Spade Lugs	
C	Standard Male Plug	(2 & 3 Wire config. only)
D	Standard Female Jack	(2 & 3 Wire config. only)
E	Mini Male Plug	(2 & 3 Wire config. only)
F	Mini Female Jack	(2 & 3 Wire config. only)

7. Accessories

1	None
2	Bx Connector
3	Cable Clamp

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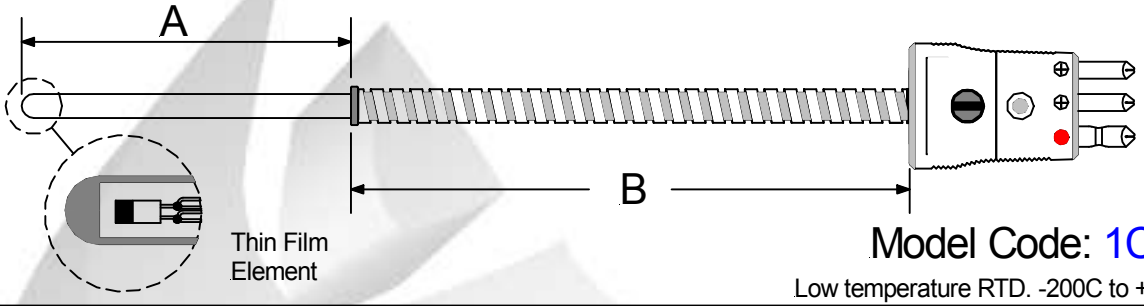
Plastic Industry RTD'

Tube & Wire General Purpose RTD.



Model Code: 1C

Low temperature RTD. -200C to +250C

Model: 1C [1.] [2.][2.] - [3.] [4.] [5.] [6.][6.][6.] [7.] [8.]

1. Outside Diameter

A	1/8"
B	3/16"
C	1/4"

2. "A" Dimension

"A"= 0 2 "

Insertion Length In Inches

3. RTD Element Type

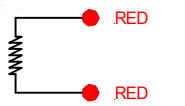
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385
Platinum element
IEC 751

4. RTD Wire Connection

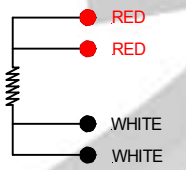
A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

2 Wire Configuration



3 Wire Configuration

4 Wire Configuration



5. Wire Description

S	24 Gage Stranded Stainless Steel Braid
X	Flexible Armor Cable
F	24 Gage Stranded Fiberglass Cable
T	24 Gage Stranded Teflon Cable

6. "B" Dimension

"B"= 0 4 8 "

Leads Wire Length In Inches

7. Termination Type

A	3" Split Leads & 1/2" Bare Ends.	
B	3" Slip Leads & Spade Lugs	
C	Standard Male Plug	(2 & 3 Wire config. only)
D	Standard Female Jack	(2 & 3 Wire config. only)
E	Mini Male Plug	(2 & 3 Wire config. only)
F	Mini Female Jack	(2 & 3 Wire config. only)

8. Accessories

1	None
2	Bx Connector
3	Cable Clamp

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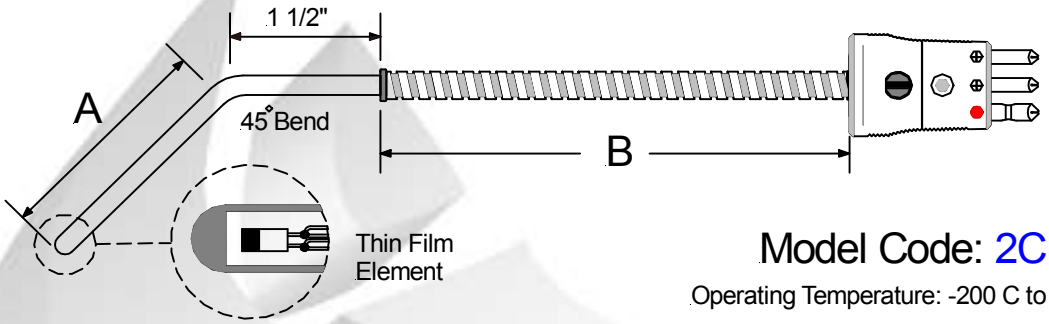
Plastic Industry RTD

General Purpose RTD. 45° Bend



Model Code: 2C

Operating Temperature: -200 C to +250 C

Model: 2C [1.] [2.] [3.] [4.] [5.] [6.] [7.] [8.]

1. Outside Diameter

A	1/8"
B	3/16"
C	1/4"

2. "A" Dimension

"A"= 0 2 "

Insertion Length In Inches

3. RTD Element Type

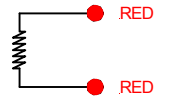
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385
Platinum element
IEC 751

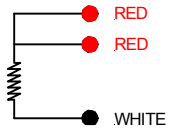
4. RTD Wire Connection

A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

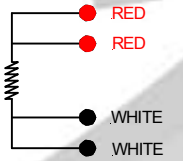
2 Wire Configuration



3 Wire Configuration



4 Wire Configuration



5. Wire Description

S	24 Gage Stranded Stainless Steel Braid
X	Flexible Armor Cable
F	24 Gage Stranded Fiberglass Cable
T	24 Gage Stranded Teflon Cable

6. "B" Dimension

"B"= 0 4 8 "

Leads Wire Length In Inches

7. Termination Type

A	3" Split Leads & 1/2" Bare Ends.	
B	3" Slip Leads & Spade Lugs	
C	Standard Male Plug	(2 & 3 Wire config. only)
D	Standard Female Jack	(2 & 3 Wire config. only)
E	Mini Male Plug	(2 & 3 Wire config. only)
F	Mini Female Jack	(2 & 3 Wire config. only)

8. Accessories

1	None
2	Bx Connector
3	Cable Clamp

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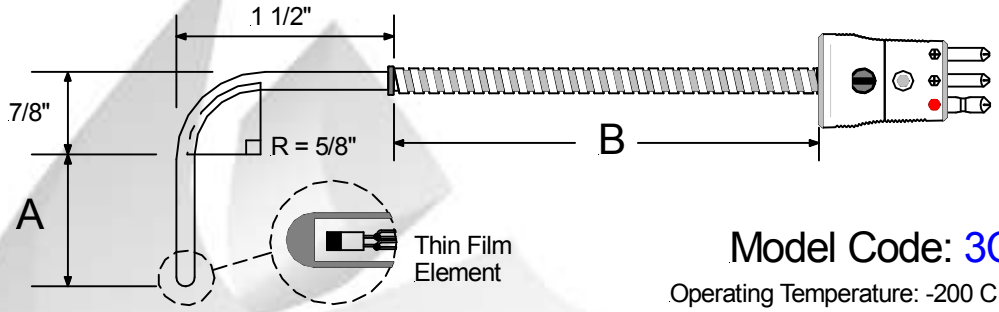
Plastic Industry RTD

General Purpose RTD. 90° Bend



Model Code: 3C

Operating Temperature: -200 C to +250 C

Model: 3C [1.] [2.] [3.] [4.] [5.] [6.] [7.] [8.]

1. Outside Diameter

A	1/8"
B	3/16"
C	1/4"

2. "A" Dimension

"A"= 0 2 "

Insertion Length In Inches

3. RTD Element Type

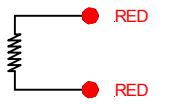
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385
Platinum element
IEC 751

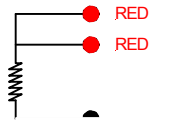
4. RTD Wire Connection

A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

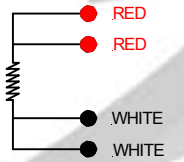
2 Wire Configuration



3 Wire Configuration



4 Wire Configuration



5. Wire Description

S	24 Gage Stranded Stainless Steel Braid
X	Flexible Armor Cable
F	24 Gage Stranded Fiberglass Cable
T	24 Gage Stranded Teflon Cable

6. "B" Dimension

"B"= 0 4 8 "

Leads Wire Length In Inches

7. Termination Type

A	3" Split Leads & 1/2" Bare Ends.	
B	3" Slip Leads & Spade Lugs	
C	Standard Male Plug	(2 & 3 Wire config. only)
D	Standard Female Jack	(2 & 3 Wire config. only)
E	Mini Male Plug	(2 & 3 Wire config. only)
F	Mini Female Jack	(2 & 3 Wire config. only)

8. Accessories

1	None
2	Bx Connector
3	Cable Clamp

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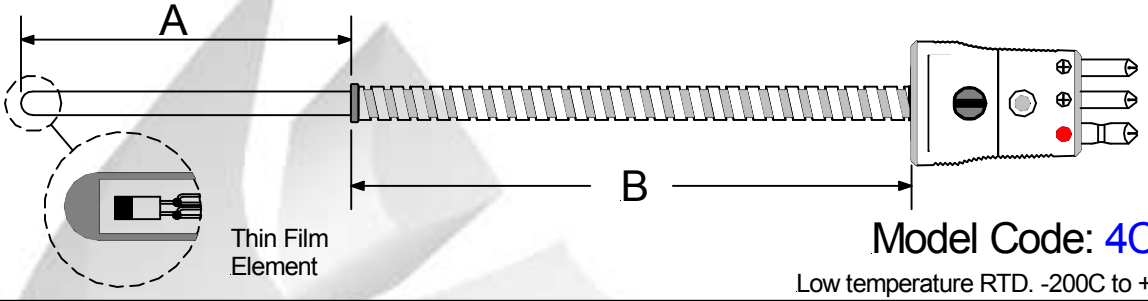
Plastic Industry RTD'

Metric Size Tube & Wire General Purpose RTD



Model Code: 4C

Low temperature RTD. -200C to +250C

Model: 4C [1.] [2.] [3.] [4.] [5.] [6.] [7.] [8.]

1. Outside Diameter

A	3mm
B	4mm
C	5mm
D	6mm

2. "A" Dimension

"A"= 150 "

Insertion Length In mm

3. RTD Element Type

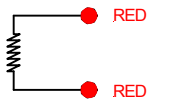
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385
Platinum element
IEC 751

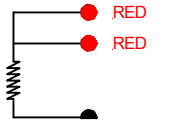
4. RTD Wire Connection

A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

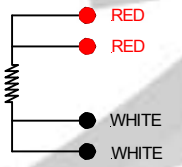
2 Wire Configuration



3 Wire Configuration



4 Wire Configuration



5. Wire Description

S	24 Gage Stranded Stainless Steel Braid
X	Flexible Armor Cable
F	24 Gage Stranded Fiberglass Cable
T	24 Gage Stranded Teflon Cable

6. "B" Dimension

"B"= 01 "

Leads Wire Length In Meters

7. Termination Type

A	90mm Split Leads & Bare Ends.	
B	90mm Slip Leads & Spade Lugs	
C	Standard Male Plug	(2 & 3 Wire config. only)
D	Standard Female Jack	(2 & 3 Wire config. only)
E	Mini Male Plug	(2 & 3 Wire config. only)
F	Mini Female Jack	(2 & 3 Wire config. only)

8. Accessories

1	None
2	Bx Connector
3	Cable Clamp

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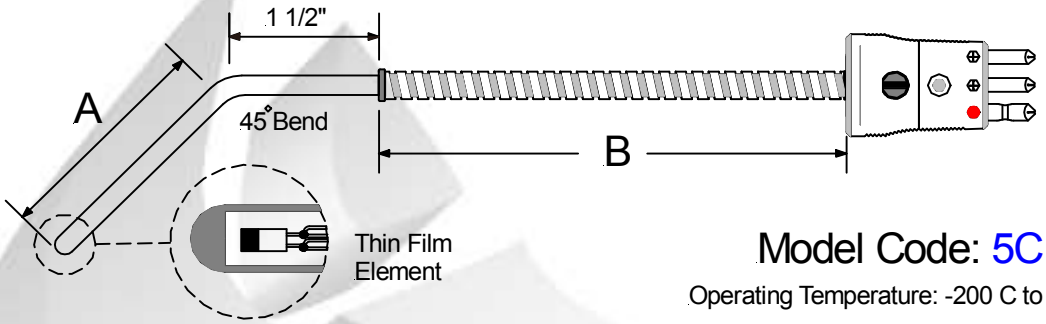
Plastic Industry RTD

Metric Size General Purpose RTD. 45 Bend



Model Code: 5C

Operating Temperature: -200 C to +250 C

Model: 5C [1.] [2.] [3.] [4.] [5.] [6.] [7.] [8.]

1. Outside Diameter

A	3mm
B	4mm
C	5mm
D	6mm

2. "A" Dimension

"A"= 150 "

Insertion Length In mm

3. RTD Element Type

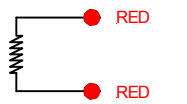
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385
Platinum element
IEC 751

4. RTD Wire Connection

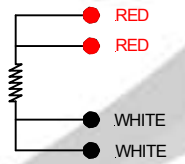
A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

2 Wire Configuration



3 Wire Configuration

4 Wire Configuration



5. Wire Description

S	24 Gage Stranded Stainless Steel Braid
X	Flexible Armor Cable
F	24 Gage Stranded Fiberglass Cable
T	24 Gage Stranded Teflon Cable

6. "B" Dimension

"B"= 01 "

Leads Wire Length In Meters

7. Termination Type

A	90mm Split Leads & Bare Ends.	
B	90mm Slip Leads & Spade Lugs	
C	Standard Male Plug	(2 & 3 Wire config. only)
D	Standard Female Jack	(2 & 3 Wire config. only)
E	Mini Male Plug	(2 & 3 Wire config. only)
F	Mini Female Jack	(2 & 3 Wire config. only)

8. Accessories

1	None
2	Bx Connector
3	Cable Clamp

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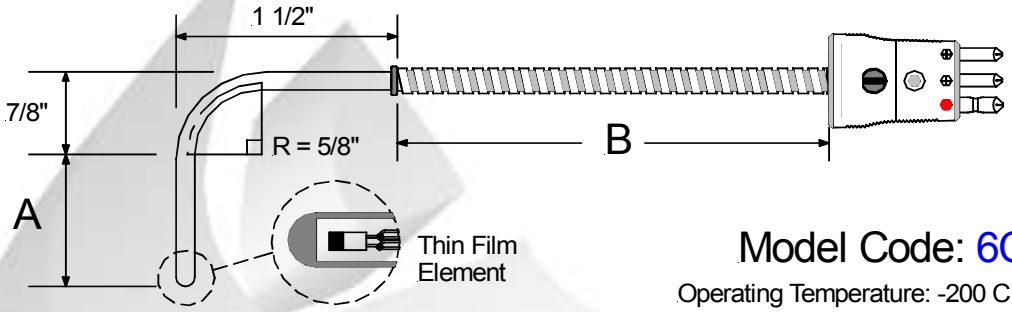
Plastic Industry RTD

General Purpose RTD. 90° Bend



Model Code: 6C

Operating Temperature: -200 C to +250 C

1.	2.		3.	4.	5.	6.	7.	8.
6C	☐	___	- ☐	☐	☐	☐	☐	☐

1. Outside Diameter

A	3mm
B	4mm
C	5mm
D	6mm

2. "A" Dimension

"A"= 1 5 0 "

Insertion Length In mm

3. RTD Element Type

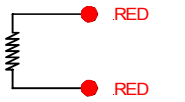
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385
Platinum element
IEC 751

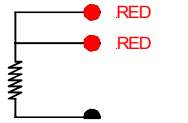
4. RTD Wire Connection

A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

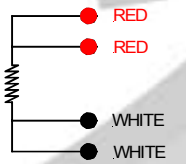
2 Wire Configuration



3 Wire Configuration



4 Wire Configuration



5. Wire Description

S	24 Gage Stranded Stainless Steel Braid
X	Flexible Armor Cable
F	24 Gage Stranded Fiberglass Cable
T	24 Gage Stranded Teflon Cable

6. "B" Dimension

"B"= 0 1 "

Leads Wire Length In Meters

7. Termination Type

A	90mm Split Leads & Bare Ends.	
B	90mm Slip Leads & Spade Lugs	
C	Standard Male Plug	(2 & 3 Wire config. only)
D	Standard Female Jack	(2 & 3 Wire config. only)
E	Mini Male Plug	(2 & 3 Wire config. only)
F	Mini Female Jack	(2 & 3 Wire config. only)

8. Accessories

1	None
2	Bx Connector
3	Cable Clamp

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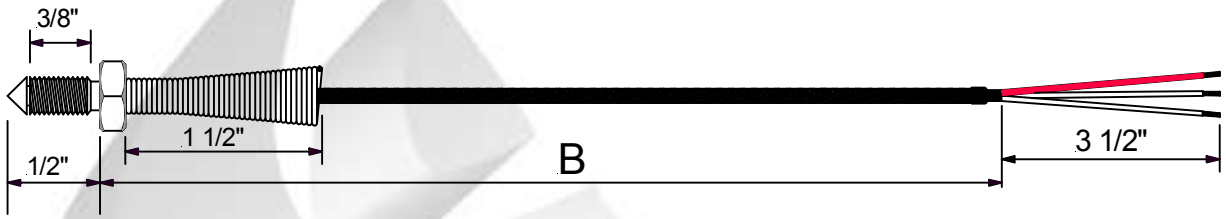
Plastic Industry RTD's

Nozzle Bolt Style RTD

Model Code: 1D

Operating Temperature: -200 C to +250 C



Model: 1D [1.] [2.] [3.] [4.] [5.] [___] - [6.] [7.]

1. Nozzle Bolt Thread Size

1	1/4" x 28 UNF
2	M6 x 1mm
3	M6 x 1.25mm
4	M8 x 1mm
5	M8 x 1.25mm

2. Wire Description

S	26 Gage, Stranded, Stainless Steel Braid
T	26 Gage, Stranded, Teflon
X	0.210 O.D., Flexible Armor, Teflon Wire
F	26 Gage, Stranded, Fiberglass Cable
C	0.210 O.D., Flexible Armor, Fiberglass Wire

3. Termination Type

0	3" Split Leads & 1/2" Bare Ends.	
1	3" Slip Leads & Spade Lugs	
2	Standard Male Plug	(2 & 3 Wire config. only)
3	Standard Female Jack	(2 & 3 Wire config. only)
4	Mini Male Plug	(2 & 3 Wire config. only)
5	Mini Female Jack	(2 & 3 Wire config. only)

4. Accessories

A	None
B	Bx Connector
C	Cable Clamp

5. "B" Dimension

"B"= 0 4 8 "

Leads Wire Length In Inches

6. RTD Element Type

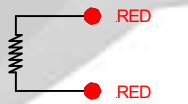
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385
Platinum element
IEC 751

7. RTD Wire Connection

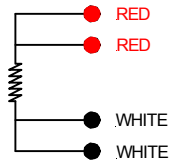
A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

2 Wire Configuration



3 Wire Configuration

4 Wire Configuration



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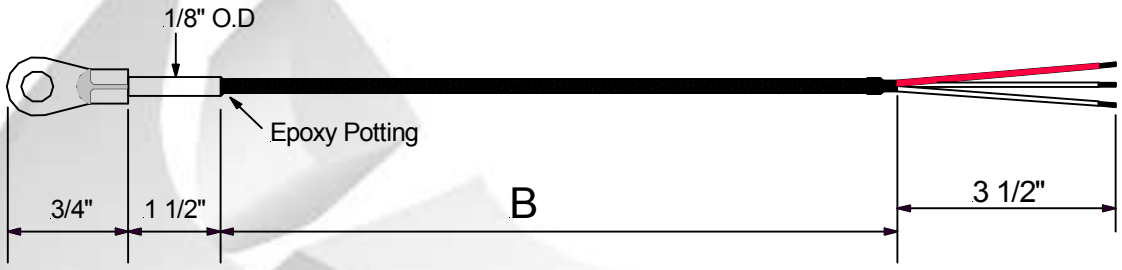
Plastic Industry RTD's

Ring Terminal Style RTD.

Model Code: 1E

Operating Temperature: -200 C to +250 C



Model: 1E [1.] [2.] [3.] [4.] [5.] - [6.] [7.]

1. Ring Terminal Hole Size

1	No. 8 Screw
2	No. 10 Screw
3	1/4" Hole
4	1/2" Hole

2. Wire Description

S	26 Gage, Stranded, Stainless Steel Braid
T	26 Gage, Stranded, Teflon
X	0.210 O.D., Flexible Armor, Teflon Wire
F	26 Gage, Stranded, Fiberglass Cable
C	0.210 O.D., Flexible Armor, Fiberglass Wire

3. Termination Type

0	3" Split Leads & 1/2" Bare Ends.	
1	3" Slip Leads & Spade Lugs	
2	Standard Male Plug	(2 & 3 Wire config. only)
3	Standard Female Jack	(2 & 3 Wire config. only)
4	Mini Male Plug	(2 & 3 Wire config. only)
5	Mini Female Jack	(2 & 3 Wire config. only)

4. Accessories

A	None
B	Bx Connector
C	Cable Clamp

5. "B" Dimension

"B"= 0 4 8 "

Leads Wire Length In Inches

6. RTD Element Type

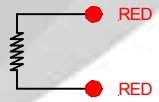
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385
Platinum element
IEC 751

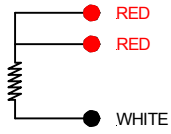
7. RTD Wire Connection

A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

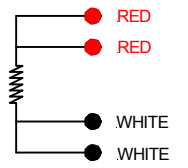
2 Wire Configuration



3 Wire Configuration



4 Wire Configuration



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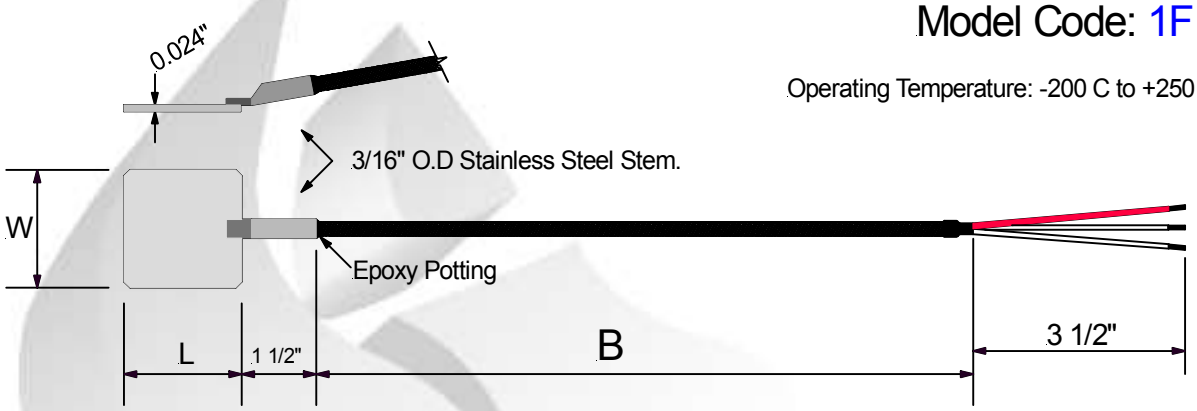
Plastic Industry RTD's

Shim Stock Style RTD. Stainless Steel Shim

Model Code: 1F

Operating Temperature: -200 C to +250 C



Model: 1F [1.] [2.] [3.] [4.] [5.] [6.] [7.]

1. Shim Size: Width x Length

1	1/2" x 1/2"
2	3/4" x 3/4"
3	3/4" x 7/8"
4	1" x 1"

2. Wire Description

S	26 Gage, Stranded, Stainless Steel Braid
T	26 Gage, Stranded, Teflon
X	0.210 O.D., Flexible Armor, Teflon Wire
F	26 Gage, Stranded, Fiberglass Cable
C	0.210 O.D., Flexible Armor, Fiberglass Wire

3. Termination Type

0	3" Split Leads & 1/2" Bare Ends.	
1	3" Slip Leads & Spade Lugs	
2	Standard Male Plug	(2 & 3 Wire config. only)
3	Standard Female Jack	(2 & 3 Wire config. only)
4	Mini Male Plug	(2 & 3 Wire config. only)
5	Mini Female Jack	(2 & 3 Wire config. only)

4. Accessories

A	None
B	Bx Connector
C	Cable Clamp

5. "B" Dimension

"B"= 0 4 8 "

Leads Wire Length In Inches

6. RTD Element Type

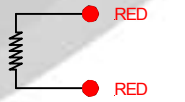
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385
Platinum element
IEC 751

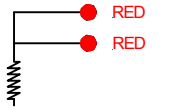
7. RTD Wire Connection

A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

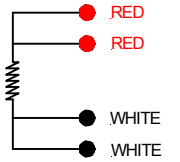
2 Wire Configuration



3 Wire Configuration



4 Wire Configuration



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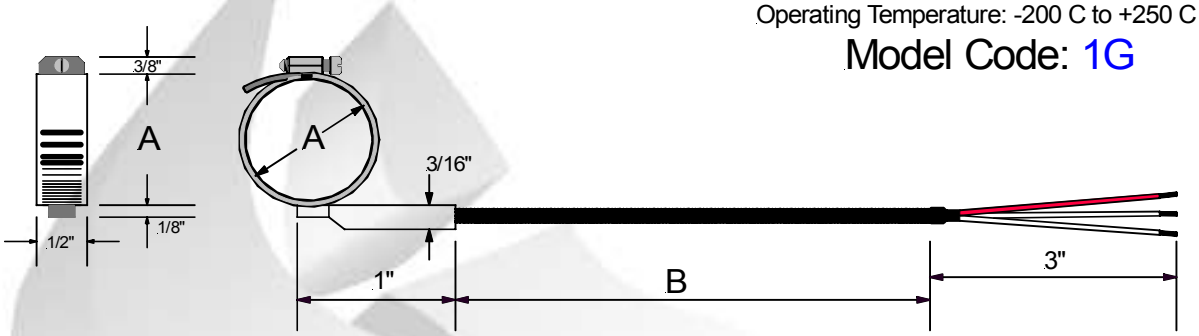
Plastic Industry RT

Pipe Clamp Style RTD

Operating Temperature: -200 C to +250 C

Model Code: 1G



Model: 1G [1.] [2.] [3.] [4.] [5.] - [6.] [7.]

1. Pipe Clamp Description

A = Diameter Range

	Minimum	Maximum
1	1 1/16"	2"
2	1 13/16"	2 3/4"
3	2 9/16"	3 1/2"
4	3"	5"
5	5"	7"

2. Wire Description

S	26 Gage, Stranded, Stainless Steel Braid
T	26 Gage, Stranded, Teflon
X	0.210 O.D., Flexible Armor, Teflon Wire
F	26 Gage, Stranded, Fiberglass Cable
C	0.210 O.D., Flexible Armor, Fiberglass Wire

3. Termination Type

0	3" Split Leads & 1/2" Bare Ends.	
1	3" Slip Leads & Spade Lugs	
2	Standard Male Plug	(2 & 3 Wire config. only)
3	Standard Female Jack	(2 & 3 Wire config. only)
4	Mini Male Plug	(2 & 3 Wire config. only)
5	Mini Female Jack	(2 & 3 Wire config. only)

4. Accessories

A	None
B	Bx Connector
C	Cable Clamp

5. "B" Dimension

"B"= 0 4 8 "

Leads Wire Length In Inches

6. RTD Element Type

Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

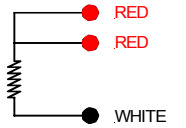
Temperature Coefficient: 0.00385
Platinum element
IEC 751

7. RTD Wire Connection

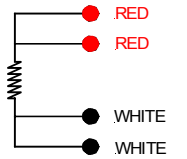
A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

2 Wire Configuration

3 Wire Configuration



4 Wire Configuration



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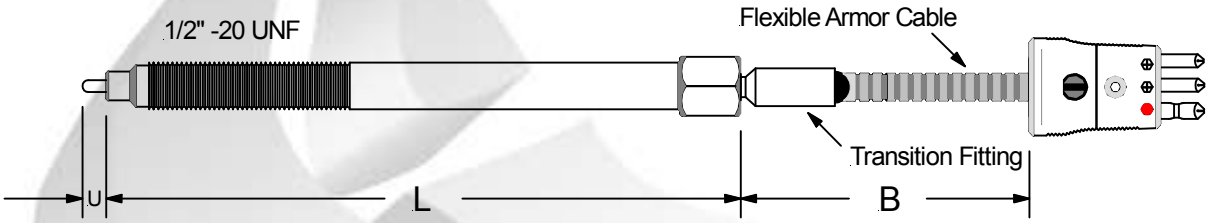
Plastic Industry RTD's

Melt Bolt RTD. Mineral Insulated

Model Code: 1K

Operating Temperature: -200 C to +500 C



Mineral insulated 316SS sensor tip.

Model 1K | A | B | C | – | D | E | – | F | G

A	Melt Bolt Length " L "
1	3"
2	4"
3	6"

B	"U" Tip Diameter
F	Flush Tip
A	0.188"
B	0.250"

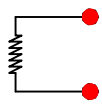
C	Insertion Depth " U "
1	Flush
2	0.125"
3	0.250"
4	0.500"
5	0.750"
6	1"

D	RTD Element Type	
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

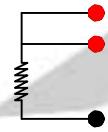
Temperature Coefficient: 0.00385
Platinum element
IEC 751

E	RTD Wire Connection
A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

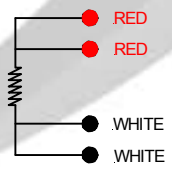
2 Wire Configuration



3 Wire Configuration



4 Wire Configuration



F	"B" Dimension
Specify " B " Length In Inches	0 0 4

Example "B" is 4" = 004

G	Termination Type
A	3" Split Leads & 1/2" Bare Ends.
B	3" Slip Leads & Spade Lugs
C	Standard Male Plug
D	Standard Female Jack
E	Mini Male Plug
F	Mini Female Jack

Connectors can only be installed on 2 & 3 wire configuration RTDs.

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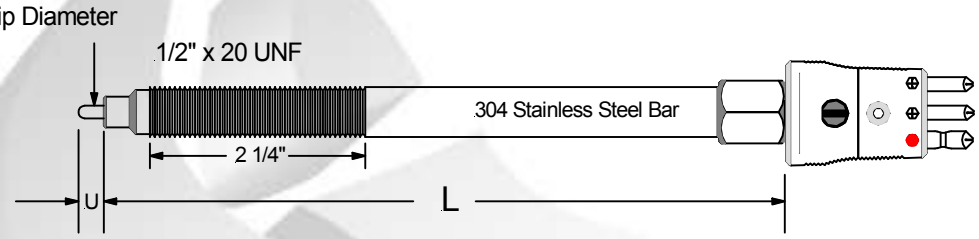
Plastic Industry RTD

Rigid Melt Bolt RTD. Mineral Insulated

Model Code: 2K

Operating Temperature: -200 C to +500 C



Mineral insulated 316SS sensor tip.

Model **2K** — A B C — D E — F

A	Melt Bolt Length " L "
1	3"
2	4"
3	6"

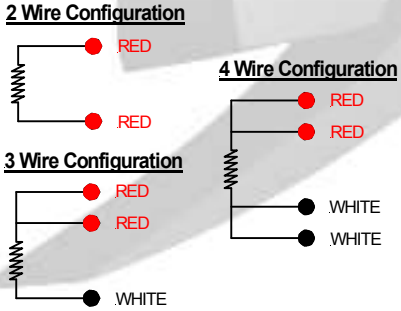
B	"U" Tip Diameter
F	Flush Tip
A	0.188"
B	0.250"

C	Insertion Depth " U "
1	Flush
2	0.125"
3	0.250"
4	0.500"
5	0.750"
6	1"

D	RTD Element Type		
	Ohms	Class A	Class B
	1 x Pt100	1	2
	2 x Pt100	3	4
	1 x Pt1000	5	6
	2 x Pt1000	7	8

Temperature Coefficient: 0.00385
Platinum element
IEC 751

E	RTD Wire Connection
A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration



F	Termination Type
A	3" Split Leads & 1/2" Bare Ends.
B	3" Slip Leads & Spade Lugs
C	Standard Male Plug
D	Standard Female Jack
E	Mini Male Plug
F	Mini Female Jack

Connectors can only be installed on 2 & 3 wire configuration RTDs.

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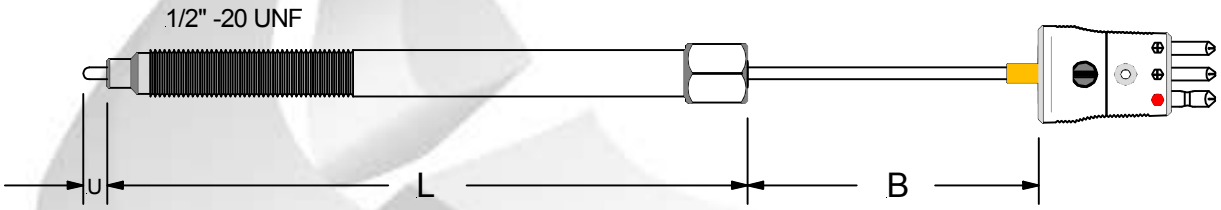
Plastic Industry RTD's

Fixed Melt Bolt RTD. Mineral Insulated

Model Code: 3K

Operating Temperature: -200 C to +500 C



Mineral insulated 316SS sensor tip.

Model **3K** — A B C — D E — F G

A	Melt Bolt Length " L "
1	3"
2	4"
3	6"

B	"U" Tip Diameter
F	Flush Tip
A	0.188"
B	0.250"

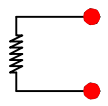
C	Insertion Depth " U "
1	Flush
2	0.125"
3	0.250"
4	0.500"
5	0.750"
6	1"

D	RTD Element Type	
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

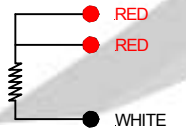
Temperature Coefficient: 0.00385
Platinum element
IEC 751

E	RTD Wire Connection
A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

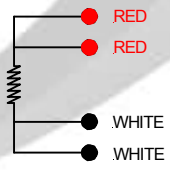
2 Wire Configuration



3 Wire Configuration



4 Wire Configuration



F	"B" Dimension
Specify " B " Length In Inches	0 4

Example "B" is 4" = 04

G	Termination Type
A	3" Split Leads & 1/2" Bare Ends.
B	3" Slip Leads & Spade Lugs
C	Standard Male Plug
D	Standard Female Jack
E	Mini Male Plug
F	Mini Female Jack

Connectors can only be installed on 2 & 3 wire configuration RTDs.

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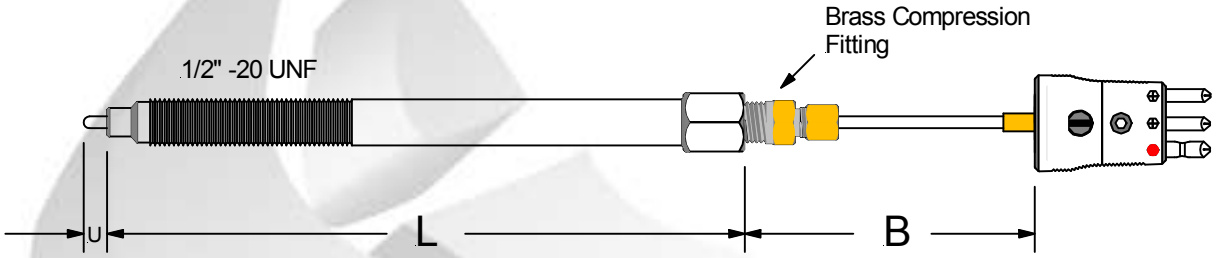
Plastic Industry RTD's

Adjustable Melt Bolt RTD.

Model Code: 4K

Operating Temperature: -200 C to +500 C



Mineral insulated 316SS tip.

Model	A	B	C	–	D	E	–	F	G
4K	___	___	___		___	___		___	___

A	Melt Bolt Length " L "
1	3"
2	4"
3	6"

B	"U" Tip Diameter
F	Flush Tip
A	0.188"
B	0.250"

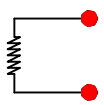
C	Insertion Depth " U "
1	Flush
2	0.125"
3	0.250"
4	0.500"
5	0.750"
6	1"

D	RTD Element Type	
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

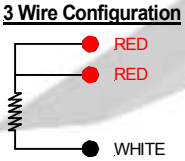
Temperature Coefficient: 0.00385
Platinum element
IEC 751

E	RTD Wire Connection
A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

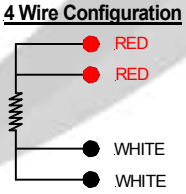
2 Wire Configuration



3 Wire Configuration



4 Wire Configuration



F	"B" Dimension
Specify " B " Length In Inches	0 4

Example "B" is 4" = 04

G	Termination Type
A	3" Split Leads & 1/2" Bare Ends.
B	3" Slip Leads & Spade Lugs
C	Standard Male Plug
D	Standard Female Jack
E	Mini Male Plug
F	Mini Female Jack

Connectors can only be installed on 2 & 3 wire configuration RTDs.

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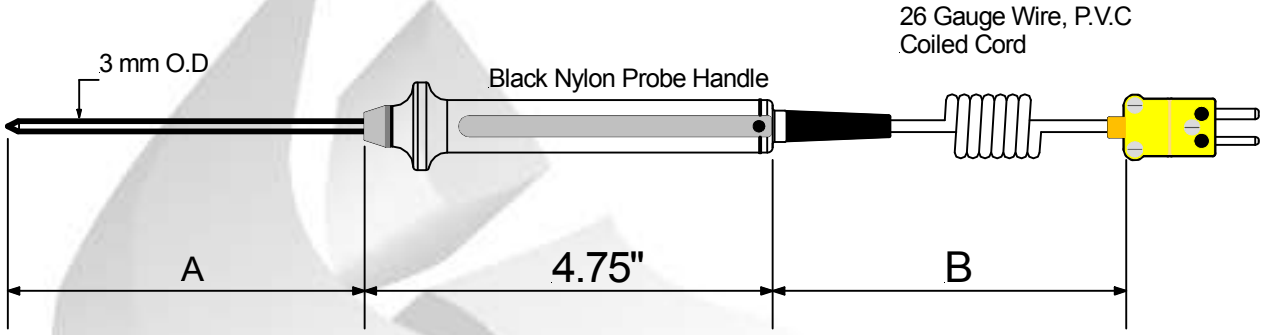
Process Industry Thermo

Mineral Insulated Thermocouple With Plastic Handle



Maximum operating temperature 900 F or 500 C.

Steps To Follow: (1.) (2.) (3.) (4.) (5.) (6.)

Model: **L1** [ ] - [ ] - [ ] - [ ] - [ ] - [ ]

1. Probe Tip Option

R	Radius Tip Style
D	Drill Tip Style

2. Termination Type

1	3" Split Leads & 1/2" Bare Ends.
2	Mini Male Plug

3. "A" Dimension

"A"= 04 "

Length In Inches

4. Coiled Cord "B" Dimension

	Retracted Length	Extended Length
A	12"	48" to 60"
B	24"	120"
C	32"	180"
D	60"	30 ft
E	96"	45 ft

5. Calibration

1	J	(+) Iron Vs. (-) Constantan
2	K	(+) Ni.-Chromium Vs. (-) Ni.-Aluminum
3	T	(+) CU. Copper Vs. (-) Cu.-Ni. Nickel

For all other calibrations contact factory for availability.

6. Junction

G	Grounded
U	Ungrounded

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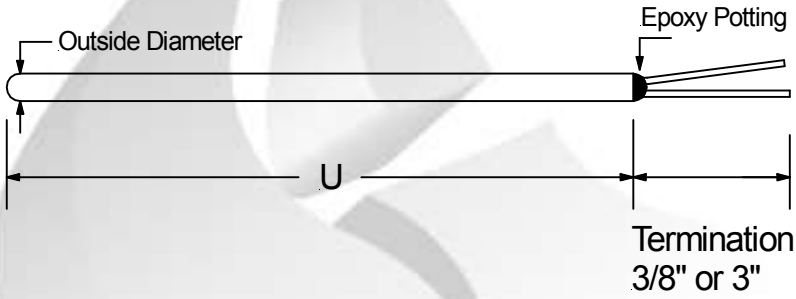
Mineral Insulated Thermo

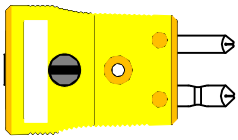
Straight Thermocouple Elements

Operating Temperature:
-200 C to +1000 C Max.

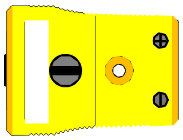
Model Code: M1



Optional Male Connector



Optional Female Connector



Model: **M1** — A B C D — E F — G

A	Outside Diameter
1	0.020"
2	0.040"
3	0.063"
4	0.125"
5	0.188"
6	0.250"
7	0.315"
8	0.375"

B	Sheath Material
A	304 Stainless
B	316 Stainless
C	310 Stainless
D	Inconel 600

C	"U" Dimension
Specify " U " Length In Inches	0 0 6

Example "U" is 6" = 006

D	"U" Fractional Dimension
A	0.125"
B	0.188"
C	0.250"
D	0.315"
E	0.375"
F	0.500"
G	0.625"
H	0.750"
I	0.875"
J	None

E	Calibration			
Standard Limits of Error		Special Limits of Error	
1	J	6	J
2	K	7	K
3	T	8	T
4	E	9	E
5	N	10	N

F	Junction Styles				
Element Description	Grounded	Ungrounded		Exposed	
	Common	Common	Isolated	Common	Isolated
Single	G		U		E
Duplex	D	F	H	J	M
Triplex	T	Q	R	S	V

G	Termination
1	3/8" Split bare leads.
2	3" Split & Color Coded leads.
3	Standard Male Plug (425 F)
4	Standard Female Jack (425 F)
5	Mini Male Plug (425 F)
6	Mini Female Jack (425 F)
7	Hi Temp. Male Plug (800 F)
8	Hi Temp. Female Jack (800 F)

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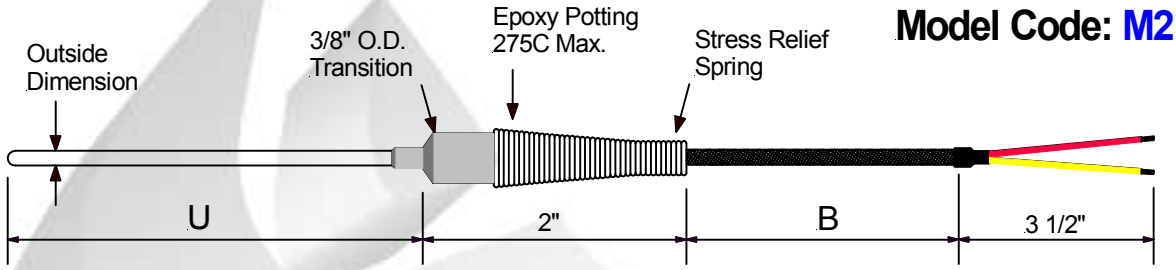
Mineral Insulated Thermo

General Purpose Thermocouple

Operating Temperature:
-200 C to +1000 C Max.

Model Code: M2



Compression fittings are sold seperatly. See accessory section.

Model: **M2** [A] [B] [C] [D] [E] [F] — [G] [H] [I]

A	Outside Diameter
1	0.020"
2	0.040"
3	0.063"
4	0.125"
5	0.188"
6	0.250"
7	0.315"
8	0.375"

B	Sheath Material
A	304 Stainless
B	316 Stainless
C	310 Stainless
D	Inconel 600

C	"U" Dimension
Specify " U " Length In Inches	0 0 6

Example "U" is 6" = 006

D	"U" Fractional Dimension
A	0.125"
B	0.188"
C	0.250"
D	0.315"
E	0.375"
F	0.500"
G	0.625"
H	0.750"
I	0.875"
N	None

E	Calibration		
Standard Limits of Error		Special Limits of Error	
1	J	6	J
2	K	7	K
3	T	8	T
4	E	9	E
5	N	10	N

F	Junction Styles				
Element Description	Grounded	Ungrounded		Exposed	
	Common	Common	Isolated	Common	Isolated
Single	G		U		E
Duplex	D	F	H	I	M

G	"B" Dimension
Specify " B " Length In Inches	0 4 8

Example "B" is 48" = 048

H	Cable Insulation Description
A	20 Gage, Stranded, Metal Braid
B	20 Gage, Stranded, Fiberglass
C	.281" O.D. Flexible Armor Cable
D	20 Gage, Stranded, Teflon
E	20 Gage, Stranded, PVC
F	.210" O.D. Flexible Armor Cable

I	Termination
1	3" Split Leads & 1/2" bare ends.
2	3" Split Leads & Spade Lugs.
3	Standard Male Plug (425 F)
4	Standard Female Jack (425 F)
5	Mini Male Plug (425 F)
6	Mini Female Jack (425 F)
7	Hi Temp. Male Plug (800 F)
8	Hi Temp. Female Jack (800 F)

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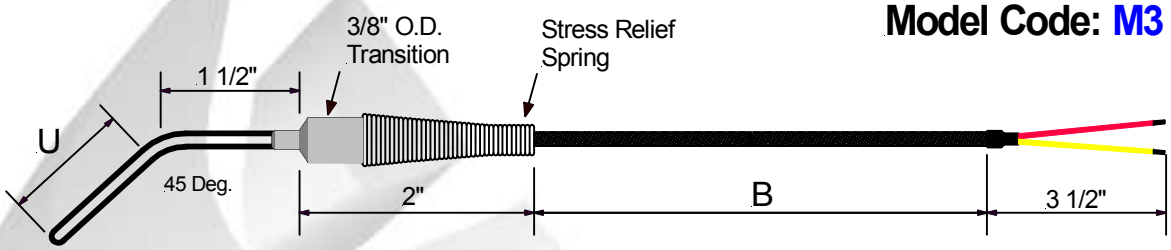
Mineral Insulated Thermo

General Purpose Thermocouple: 45 Deg. Bend

Operating Temperature: -200 C to +1000 C Max.

Model Code: M3



Compression fittings are sold seperatly. See accessory section.

Model: **M3** A B C D E F — G H I

A	Outside Diameter
1	0.020"
2	0.040"
3	0.063"
4	0.125"
5	0.188"
6	0.250"
7	0.315"
8	0.375"

B	Sheath Material
A	304 Stainless
B	316 Stainless
C	310 Stainless
D	Inconel 600

C "U" Dimension

Specify " U " Length In Inches 0 0 6

Example "U" is 6" = 006

D	"U" Fractional Dimension
A	0.125"
B	0.188"
C	0.250"
D	0.315"
E	0.375"
F	0.500"
G	0.625"
H	0.750"
I	0.875"
N	None

E Calibration

Standard Limits of Error		Special Limits of Error	
1	J	6	J
2	K	7	K
3	T	8	T
4	E	9	E
5	N	10	N

F Junction Styles

Element Description	Grounded	Ungrounded		Exposed	
	Common	Common	Isolated	Common	Isolated
Single	G		U		E
Duplex	D	F	H	I	M

G "B" Dimension

Specify " B " Length In Inches 0 4 8

Example "B" is 48" = 048

H	Cable Insulation Description
A	20 Gage, Stranded, Metal Braid
B	20 Gage, Stranded, Fiberglass
C	.281" O.D. Flexible Armor Cable
D	20 Gage, Stranded, Teflon
E	20 Gage, Stranded, PVC
F	.210" O.D. Flexible Armor Cable

I	Termination
1	3" Split Leads & 1/2" bare ends.
2	3" Split Leads & Spade Lugs.
3	Standard Male Plug (425 F)
4	Standard Female Jack (425 F)
5	Mini Male Plug (425 F)
6	Mini Female Jack (425 F)
7	Hi Temp. Male Plug (800 F)
8	Hi Temp. Female Jack (800 F)

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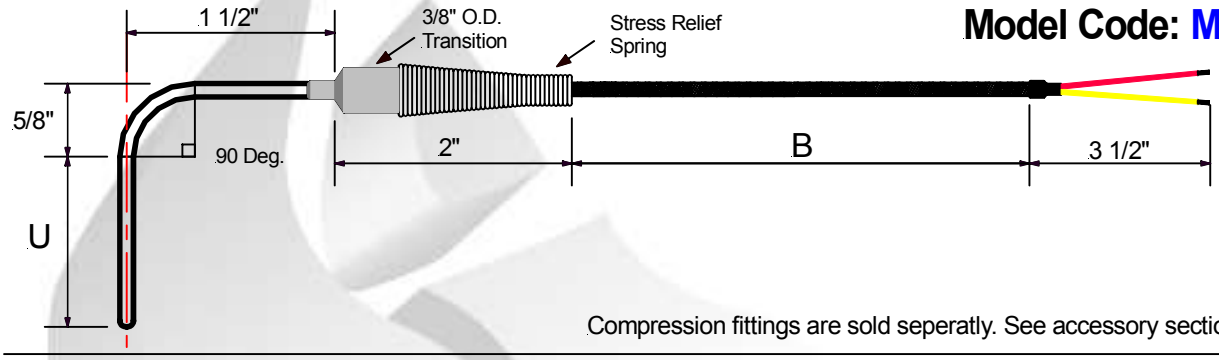
Mineral Insulated Thermo

General Purpose Thermocouple: 90 Deg. Bend

Operating Temperature:
-200 C to +1000 C Max.



Model Code: M4

Compression fittings are sold seperatly. See accessory section.

Model: **M4** [A] [B] [C] [D] [E] [F] — [G] [H] [I]

A	Outside Diameter
1	0.020"
2	0.040"
3	0.063"
4	0.125"
5	0.188"
6	0.250"
7	0.315"
8	0.375"

B	Sheath Material
A	304 Stainless
B	316 Stainless
C	310 Stainless
D	Inconel 600

C	"U" Dimension
Specify " U " Length In Inches 0 0 6	

Example "U" is 6" = 006

D	"U" Fractional Dimension
A	0.125"
B	0.188"
C	0.250"
D	0.315"
E	0.375"
F	0.500"
G	0.625"
H	0.750"
I	0.875"
N	None

E	Calibration		
	Standard Limits of Error		Special Limits of Error
1	J	6	J
2	K	7	K
3	T	8	T
4	E	9	E
5	N	10	N

F	Junction Styles				
Element Description	Grounded	Ungrounded		Exposed	
	Common	Common	Isolated	Common	Isolated
Single	G		U		E
Duplex	D	F	H	I	M

G	"B" Dimension
Specify " B " Length In Inches 0 4 8	

Example "B" is 48" = 048

H	Cable Insulation Description
A	20 Gage, Stranded, Metal Braid
B	20 Gage, Stranded, Fiberglass
C	.281" O.D. Flexible Armor Cable
D	20 Gage, Stranded, Teflon
E	20 Gage, Stranded, PVC
F	.210" O.D. Flexible Armor Cable

I	Termination
1	3" Split Leads & 1/2" bare ends.
2	3" Split Leads & Spade Lugs.
3	Standard Male Plug (425 F)
4	Standard Female Jack (425 F)
5	Mini Male Plug (425 F)
6	Mini Female Jack (425 F)
7	Hi Temp. Male Plug (800 F)
8	Hi Temp. Female Jack (800 F)

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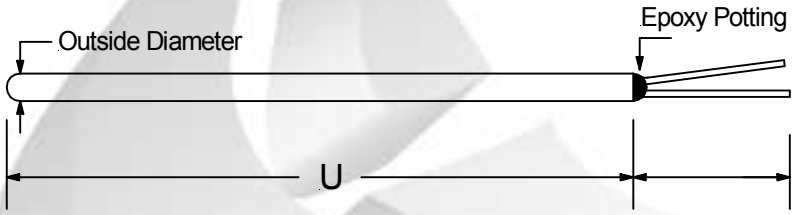
Mineral Insulated Thermo

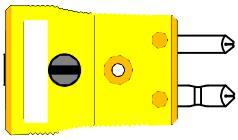
Metric Straight Thermocouple Elements

Operating Temperature:
-200 C to +1000 C Max.

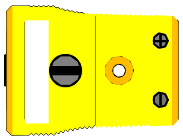
Model Code: M5



Optional Male Connector



Optional Female Connector



Model: **M5** — A B C — D E — F

A	Outside Diameter
1	0.5mm
2	1mm
3	1.5mm
4	2mm
5	3mm
6	4mm
7	5mm
8	6mm
9	8mm

C	"U" Dimension
Specify " U " Length In MM	1 5 0

Example "U" is 150mm= 150

E	Junction Styles				
Element Description	Grounded	Ungrounded		Exposed	
	Common	Common	Isolated	Common	Isolated
Single	G		U		E
Duplex	D	F	H	I	M

B	Sheath Material
A	304 Stainless
B	316 Stainless
C	310 Stainless
D	Inconel 600

D	Calibration		
	Standard Limits of Error		Special Limits of Error
1	J	6	J
2	K	7	K
3	T	8	T
4	E	9	E
5	N	10	N

F	Termination
1	10mm Split bare leads.
2	75mm Split & Color Coded leads.
3	Standard Male Plug (425 F)
4	Standard Female Jack (425 F)
5	Mini Male Plug (425 F)
6	Mini Female Jack (425 F)
7	Hi Temp. Male Plug (800 F)
8	Hi Temp. Female Jack (800 F)

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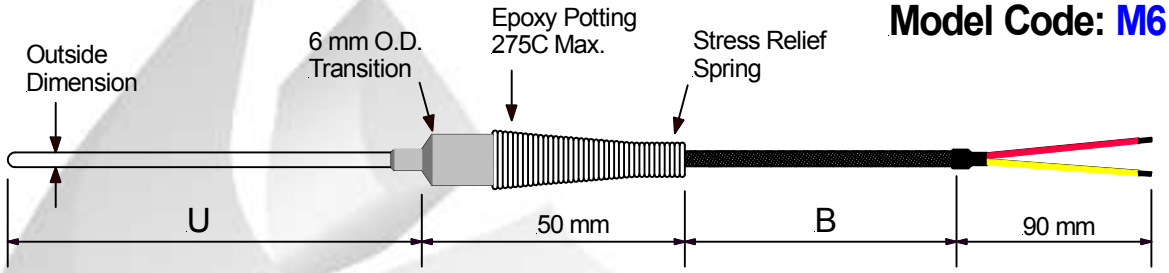
Mineral Insulated Thermo

Metric General Purpose Thermocouple

Operating Temperature:
-200 C to +1000 C Max.

Model Code: M6



Compression fittings are sold seperatly. See accessory section.

Model: **M6** A B C — D E — F G H

A	Outside Diameter
1	0.5 mm
2	1 mm
3	1.5 mm
4	2 mm
5	3 mm
6	4 mm
7	6 mm
8	8 mm

B	Sheath Material
A	304 Stainless
B	316 Stainless
C	310 Stainless
D	Inconel 600

C	"U" Dimension
Specify " U " Length In mm	1 0 0

Example "U" is 100 mm = 100

D	Calibration			
Standard Limits of Error		Special Limits of Error	
1	J	6	J
2	K	7	K
3	T	8	T
4	E	9	E
5	N	10	N

E	Junction Styles					
Element Description	Grounded	Ungrounded		Exposed		
	Common	Common	Isolated	Common	Isolated
Single	G		U		E
Duplex	D	F	H	I	M

F	"B" Dimension
Specify " B " Length In Meters	0 2

Example "B" is 2 Meters = 02

G	Cable Insulation Description
A	20 Gage, Stranded, Metal Braid
B	20 Gage, Stranded, Fiberglass
C	.281" O.D. Flexible Armor Cable
D	20 Gage, Stranded, Teflon
E	20 Gage, Stranded, PVC
F	.210" O.D. Flexible Armor Cable

H	Termination
1	75 mm Split Leads & 15 mm bare ends.
2	75 mm Split Leads & Spade Lugs.
3	Standard Male Plug (425 F)
4	Standard Female Jack (425 F)
5	Mini Male Plug (425 F)
6	Mini Female Jack (425 F)
7	Hi Temp. Male Plug (800 F)
8	Hi Temp. Female Jack (800 F)

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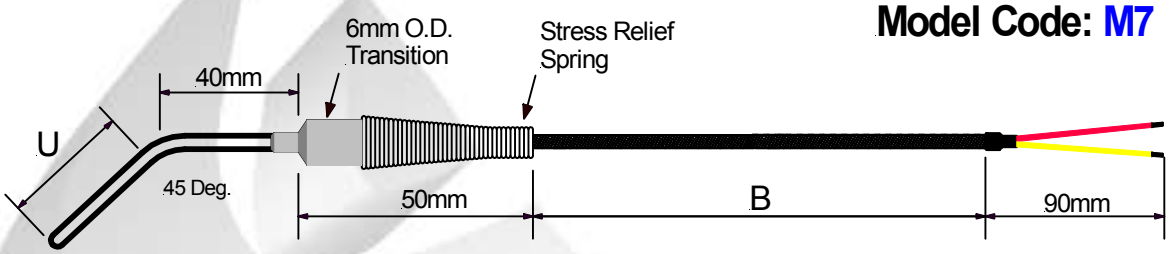
Mineral Insulated Thermo

Metric General Purpose Thermocouple: 45 Deg. Bend

Operating Temperature:
-200 C to +1000 C Max.

Model Code: M7



Compression fittings are sold seperatly. See accessory section.

Model: **M7** [A] [B] [C] — [D] [E] — [F] [G] [H]

A	Outside Diameter
1	0.5 mm
2	1 mm
3	1.5 mm
4	2 mm
5	3 mm
6	4 mm
7	6 mm
8	8 mm

B	Sheath Material
A	304 Stainless
B	316 Stainless
C	310 Stainless
D	Inconel 600

C "U" Dimension

Specify " U " Length In mm 1 0 0

Example "U" is 100 mm = 100

D	Calibration			
	Standard Limits of Error		Special Limits of Error	
1	J	6	J	
2	K	7	K	
3	T	8	T	
4	E	9	E	
5	N	10	N	

F "B" Dimension

Specify " B " Length In Meters 0 2

Example "B" is 2 Meters = 02

G	Cable Insulation Description
A	20 Gage, Stranded, Metal Braid
B	20 Gage, Stranded, Fiberglass
C	.281" O.D. Flexible Armor Cable
D	20 Gage, Stranded, Teflon
E	20 Gage, Stranded, PVC
F	.210" O.D. Flexible Armor Cable

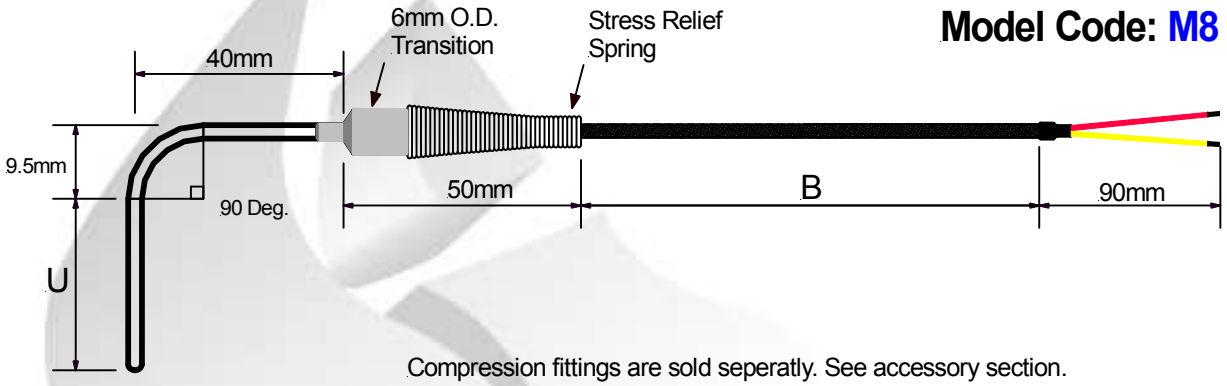
E	Junction Styles					
Element Description	Grounded	Ungrounded		Exposed	
	Common	Common	Isolated	Common	Isolated
Single	G		U		E
Duplex	D	F	H	I	M

H	Termination
1	75 mm Split Leads & 15 mm bare ends.
2	75 mm Split Leads & Spade Lugs.
3	Standard Male Plug (425 F)
4	Standard Female Jack (425 F)
5	Mini Male Plug (425 F)
6	Mini Female Jack (425 F)
7	Hi Temp. Male Plug (800 F)
8	Hi Temp. Female Jack (800 F)

Mineral Insulated Thermo

Metric General Purpose Thermocouple: 90 Deg. Bend

Operating Temperature:
-200 C to +1000 C Max.



Model Code: M8

Compression fittings are sold seperatly. See accessory section.

Model: **M8** A B C — D E — F G H

A	Outside Diameter
1	0.5 mm
2	1 mm
3	1.5 mm
4	2 mm
5	3 mm
6	4 mm
7	6 mm
8	8 mm

B	Sheath Material
A	304 Stainless
B	316 Stainless
C	310 Stainless
D	Inconel 600

C	"U" Dimension
Specify " U " Length In mm	1 0 0

Example "U" is 100 mm = 100

D	Calibration			
	Standard Limits of Error		Special Limits of Error	
1	J	6	J
2	K	7	K
3	T	8	T
4	E	9	E
5	N	10	N

E	Junction Styles				
Element Description	Grounded	Ungrounded		Exposed	
	Common	Common	Isolated	Common	Isolated
Single	G		U		E
Duplex	D	F	H	I	M

F	"B" Dimension
Specify " B " Length In Meters	0 2

Example "B" is 2 Meters = 02

G	Cable Insulation Description
A	20 Gage, Stranded, Metal Braid
B	20 Gage, Stranded, Fiberglass
C	.281" O.D. Flexible Armor Cable
D	20 Gage, Stranded, Teflon
E	20 Gage, Stranded, PVC
F	.210" O.D. Flexible Armor Cable

H	Termination
1	75 mm Split Leads & 15 mm bare ends.
2	75 mm Split Leads & Spade Lugs.
3	Standard Male Plug (425 F)
4	Standard Female Jack (425 F)
5	Mini Male Plug (425 F)
6	Mini Female Jack (425 F)
7	Hi Temp. Male Plug (800 F)
8	Hi Temp. Female Jack (800 F)

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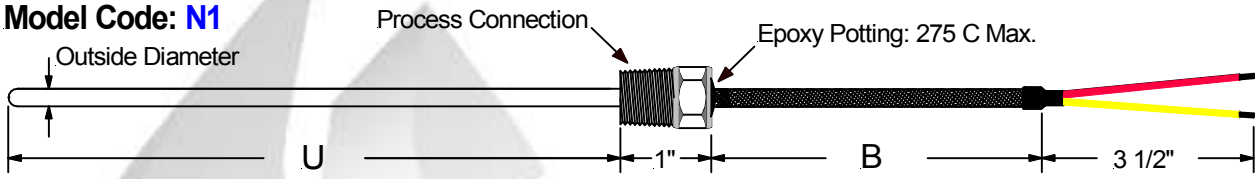
Mineral Insulated Thermo

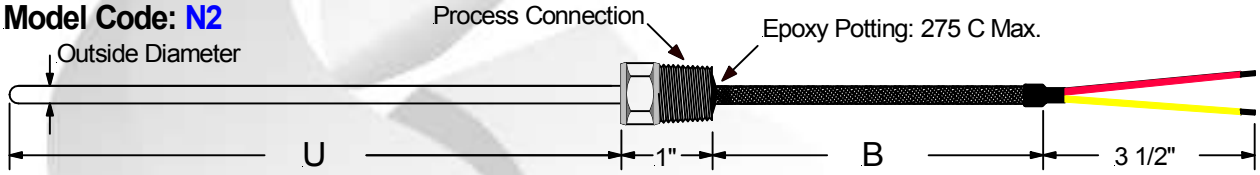
Hex Bushing Style Thermocouple

Operating Temperature:
-200 C to +1000 C Max.

Model Code: N1



Model Code: N2



Model: N1 / N2

A	B	C	D	E	—	F	G	—	H	I	J
___	___	___ ___ ___	___	___		___	___		___ ___ ___	___	___

A	Outside Diameter
1	0.063"
2	0.125"
3	0.188"
4	0.250"
5	0.315"
6	0.375"
7	0.500"

B	Sheath Material
A	304 Stainless
B	316 Stainless
C	310 Stainless
D	Inconel 600

C	"U" Dimension
Specify " U " Length In Inches	0 0 6

Example "U" is 6" = 006

D	"U" Fractional Dimension
A	0.125"
B	0.250"
C	0.375"
D	0.500"
E	0.750"
F	None

E	Process Connection
1	1/4" NPT
2	1/2" NPT
3	3/4" NPT

F	Calibration			
	Standard Limits of Error		Special Limits of Error	
1	J	6	J	
2	K	7	K	
3	T	8	T	
4	E	9	E	
5	N	10	N	

G	Junction Styles				
Element Description	Grounded	Ungrounded		Exposed	
	Common	Common	Isolated	Common	Isolated
Single	G		U		E
Duplex	D	F	H	I	M
Triplex	T	Q	R	S	V

H	"B" Dimension
Specify " B " Length In Inches	0 4 8

Example "B" is 48" = 048

I	Cable Insulation Description
A	20 Gage, Stranded, Metal Braid
B	20 Gage, Stranded, Fiberglass
C	.281" O.D. Flexible Armor Cable
D	20 Gage, Stranded, Teflon
E	20 Gage, Stranded, PVC
F	.210" O.D. Flexible Armor Cable

J	Termination
1	3" Split Leads & 1/2" bare ends.
2	3" Split Leads & Spade Lugs.
3	Standard Male Plug (425 F)
4	Standard Female Jack (425 F)
5	Mini Male Plug (425 F)
6	Mini Female Jack (425 F)
7	Hi Temp. Male Plug (800 F)
8	Hi Temp. Female Jack (800 F)

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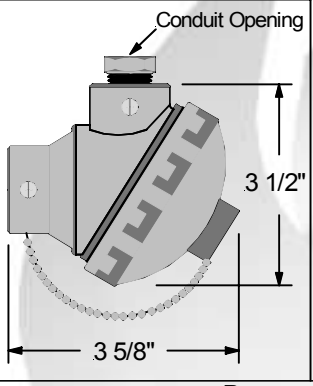
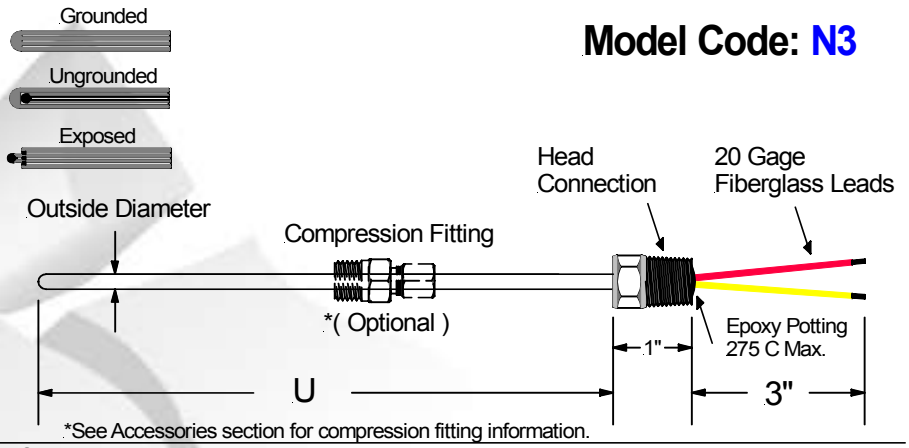
Mineral Insulated Thermo

Compression Fitting Mounting Style

Operating Temperature:
-200 C to +1000 C Max.

Connection Head





*See Accessories section for compression fitting information.

Model Code: N3

Model: **N3**

A	B	C	D	E	F	—	G	H	I	J
___	___	___	___	___	___	—	___	___	___	___

A	Outside Diameter
1	0.063"
2	0.125"
3	0.188"
4	0.250"
5	0.315"
6	0.375"
7	0.500"

B	Sheath Material
A	304 Stainless
B	316 Stainless
C	310 Stainless
D	Inconel 600

C	"U" Dimension
Specify " U " Length In Inches	0 0 6

Example "U" is 6" = 006

D	"U" Fractional Dimension
A	0.125"
B	0.188"
C	0.250"
D	0.315"
E	0.375"
F	0.500"
G	0.625"
H	0.750"
I	0.875"
J	None

E	Calibration			
	Standard limits of error		Special limits of error	
1	J	6	J	
2	K	7	K	
3	T	8	T	
4	E	9	E	
5	N	10	N	

F	Junction Styles					
Element Description	Grounded	Ungrounded		Exposed		
	Common	Common	Isolated	Common	Isolated	
Single	G		U		E	
Duplex	D	F	H	I	M	
Triplex	T	Q	R	S	V	

G	Head Connection
1	1/4" NPT
2	1/2" NPT
3	3/4" NPT

H	Connection Head Model
A	None , 3" Split Leads
B	Cast Aluminum: Standard
C	Cast Aluminum: Mini
D	Polypropylene: FDA Appr.
E	Cast Iron: Standard
F	316 Stainless Steel
G	Explosion Proof

I	Conduit Opening
1	None
2	1/2" NPT
3	3/4" NPT

J	Connection Head Options
N	None
T	4-20mA Transmitter
X	No Terminal Block

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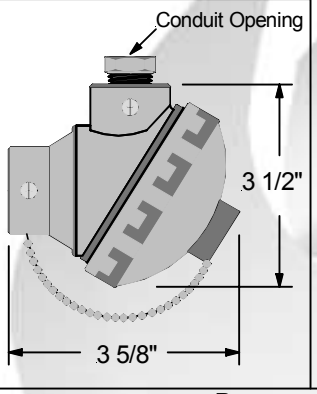
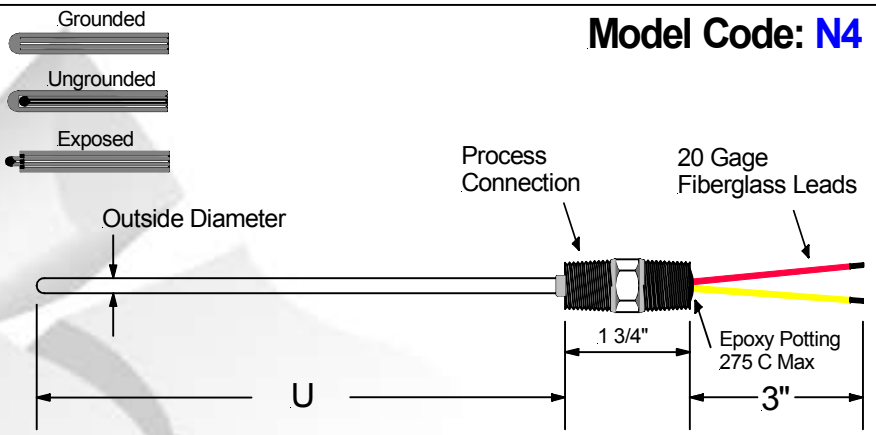
Mineral Insulated Therm

Hex Nipple Style

Operating Temperature:
-200 C to +1000 C Max.

Connection Head





Model Code: N4

Model: **N4**

A	B	C	D	E	F	—	G	H	I	J
___	___	___	___	___	___		___	___	___	___

A	Outside Diameter
1	0.063"
2	0.125"
3	0.188"
4	0.250"
5	0.315"
6	0.375"
7	0.500"

B	Sheath Material
A	304 Stainless
B	316 Stainless
C	310 Stainless
D	Inconel 600

C	"U" Dimension
Specify " U " Length In Inches	0 0 6

Example "U" is 6" = 006

D	"U" Fractional Dimension
A	0.125"
B	0.188"
C	0.250"
D	0.315"
E	0.375"
F	0.500"
G	0.625"
H	0.750"
I	0.875"
J	None

E	Calibration		
	Standard limits of error		Special limits of error
1	J	6	J
2	K	7	K
3	T	8	T
4	E	9	E
5	N	10	N

F	Junction Styles				
Element Description	Grounded	Ungrounded		Exposed	
	Common	Common	Isolated	Common	Isolated
Single	G		U		E
Duplex	D	F	H	I	M
Triplex	T	Q	R	S	V

G	Process Connection
1	1/4" NPT
2	1/2" NPT
3	3/4" NPT

H	Connection Head Model
A	None , 3" Split Leads
B	Cast Aluminum: Standard
C	Cast Aluminum: Mini
D	Polypropylene: FDA Appr.
E	Cast Iron: Standard
F	316 Stainless Steel
G	Explosion Proof

I	Conduit Opening
1	None
2	1/2" NPT
3	3/4" NPT

J	Connection Head Options
N	None
B	No Terminal Block
S	Spring Loaded
T	4-20mA Transmitter
R	Options S & T
Q	Options S & B

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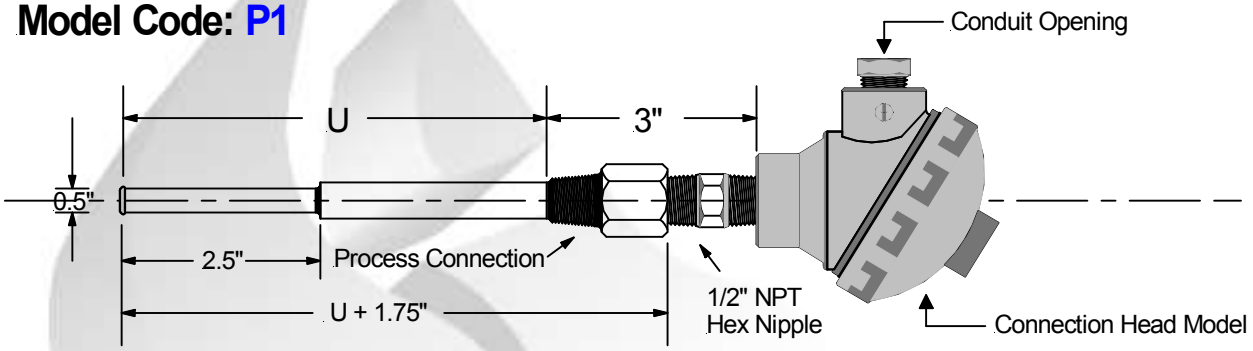
Mineral Insulated Thermocouple & Ther

Standard Stepped Threaded Thermowell

Operating Temperature:
-200 C to +1000 C Max.

Model Code: P1



All Thermowell Assemblies Are Spring Loaded.

Model: **P1** — A B — C D — E F G H

A	"U" Fractional Dimension
A	1 5/8"
B	2 1/2"
C	4 1/2"
D	7 1/2"
E	10 1/2"
F	13 1/2"
G	16 1/2"
H	22 1/2"

For all other U lengths contact factory for availability.

C	Calibration		
	Standard Limits of Error		Special Limits of Error
1	J	6	J
2	K	7	K
3	T	8	T
4	E	9	E
5	N	10	N

E	Process Connection
1	1/2" NPT
2	3/4" NPT
3	1" NPT

F	Connection Head Model
A	None , 3" Split Leads
B	Cast Aluminum: Standard
C	Cast Aluminum: Mini
D	Polypropylene: FDA Appr.
E	Cast Iron: Standard
F	316 Stainless Steel
G	Explosion Proof

B	Sheath Material
1	304 Stainless
2	316 Stainless
3	Inconel 600
4	Carbon Steel
5	Solid Teflon

For all other materials contact factory for availability.

D	Junction Styles		
Element Description	Grounded	Ungrounded	
	Common	Common	Isolated
Single	G		U
Duplex	D	F	H
Triplex	T	Q	R

G	Conduit Opening
1	None
2	1/2" NPT
3	3/4" NPT

H	Connection Head Options
N	None
B	No Terminal Block
T	4-20mA Transmitter

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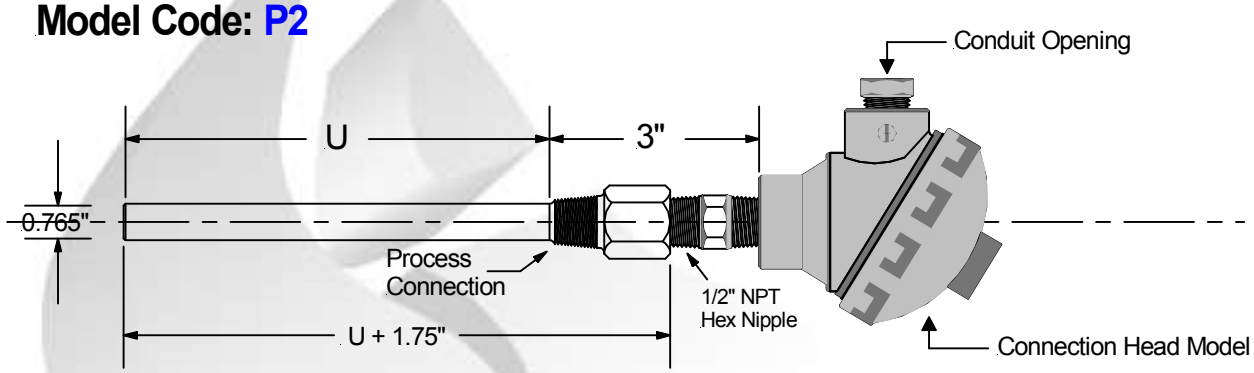
Mineral Insulated Thermocouple & The

Standard Straight Threaded Thermowell

Operating Temperature:
-200 C to +1000 C Max.

Model Code: P2



All Thermowell Assemblies Are Spring Loaded.

Model: **P2** — A B — C D — E F G H

A	"U" Fractional Dimension
A	1 5/8"
B	2 1/2"
C	4 1/2"
D	7 1/2"
E	10 1/2"
F	13 1/2"
G	16 1/2"
H	22 1/2"

For all other U lengths contact factory for availability.

C	Calibration		
	Standard Limits of Error		Special Limits of Error
1	J	6	J
2	K	7	K
3	T	8	T
4	E	9	E
5	N	10	N

E	Process Connection
1	1/2" NPT
2	3/4" NPT
3	1" NPT

F	Connection Head Model
A	None , 3" Split Leads
B	Cast Aluminum: Standard
C	Cast Aluminum: Mini
D	Polypropylene: FDA Appr.
E	Cast Iron: Standard
F	316 Stainless Steel
G	Explosion Proof

B	Sheath Material
1	304 Stainless
2	316 Stainless
3	Inconel 600
4	Carbon Steel
5	Solid Teflon

For all other materials contact factory for availability.

D	Junction Styles		
Element Description	Grounded	Ungrounded	
	Common	Common	Isolated
Single	G		U
Duplex	D	F	H
Triplex	T	Q	R

G	Conduit Opening
1	None
2	1/2" NPT
3	3/4" NPT

H	Connection Head Options
N	None
B	No Terminal Block
T	4-20mA Transmitter

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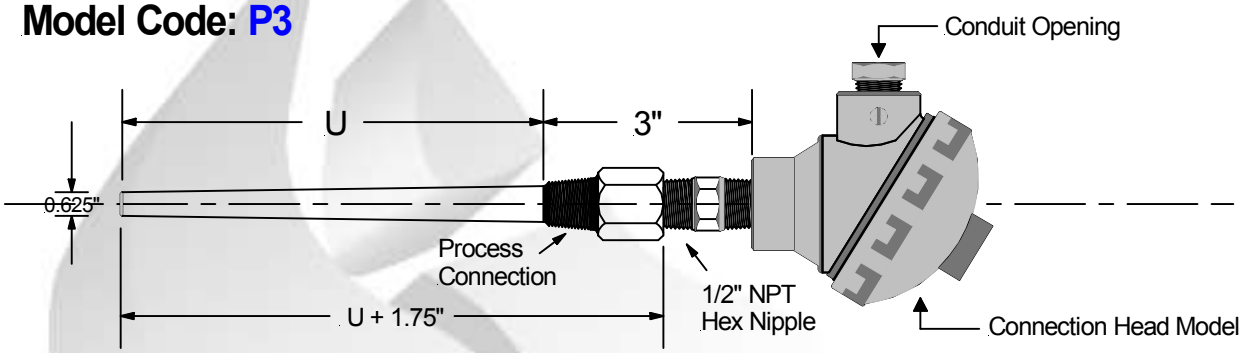
Mineral Insulated Thermocouple & Ther

Standard Tapered Threaded Thermowell

Operating Temperature:
-200 C to +1000 C Max.

Model Code: P3



All Thermowell Assemblies Are Spring Loaded.

Model: **P3** | A | B | — | C | D | — | E | F | G | H

A	"U" Fractional Dimension
A	1 5/8"
B	2 1/2"
C	4 1/2"
D	7 1/2"
E	10 1/2"
F	13 1/2"
G	16 1/2"
H	22 1/2"

For all other U lengths contact factory for availability.

B	Sheath Material
1	304 Stainless
2	316 Stainless
3	Inconel 600
4	Carbon Steel
5	Solid Teflon

For all other materials contact factory for availability.

C	Calibration			
Standard Limits of Error		Special Limits of Error	
1	J	6	J
2	K	7	K
3	T	8	T
4	E	9	E
5	N	10	N

D	Junction Styles		
Element Description	Grounded	Ungrounded	
	Common	Common	Isolated
Single	G		U
Duplex	D	F	H
Triplex	T	Q	R

E	Process Connection
1	1/2" NPT
2	3/4" NPT
3	1" NPT

F	Connection Head Model
A	None , 3" Split Leads
B	Cast Aluminum: Standard
C	Cast Aluminum: Mini
D	Polypropylene: FDA Appr.
E	Cast Iron: Standard
F	316 Stainless Steel
G	Explosion Proof

G	Conduit Opening
1	None
2	1/2" NPT
3	3/4" NPT

H	Connection Head Options
N	None
B	No Terminal Block
T	4-20mA Transmitter

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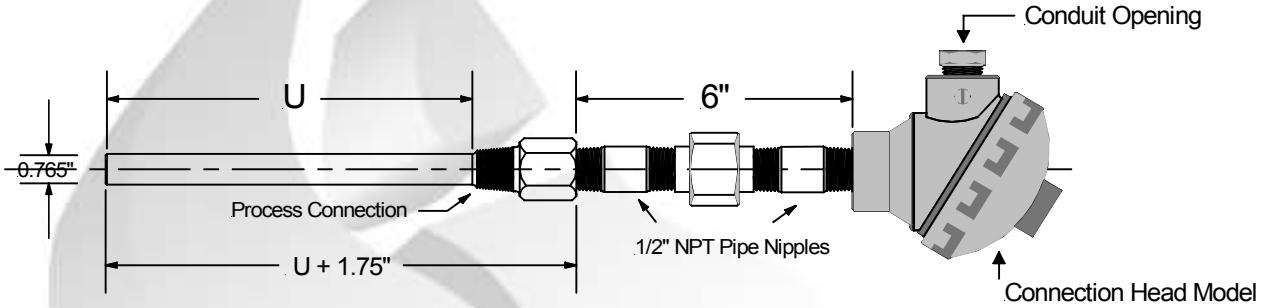
Mineral Insulated Thermocouple & Ther

Nipple-Union-Nipple-Thermowell Style

Operating Temperature:
-200 C to +1000 C Max.

Model Code: P4



All Thermowell Assemblies Are Spring Loaded.

Model: **P4** — A B C — D E — F G H I

A	Thermowell Type
1	Stepped
2	Straight
3	Tapered

C	Sheath Material
1	304 Stainless
2	316 Stainless
3	Inconel 600
4	Carbon Steel
5	Solid Teflon

For all other materials contact factory for availability.

B	"U" Fractional Dimension
A	1 5/8"
B	2 1/2"
C	4 1/2"
D	7 1/2"
E	10 1/2"
F	13 1/2"
G	16 1/2"
H	22 1/2"

For all other U lengths contact factory for availability.

D	Calibration		
	Standard Limits of Error		Special Limits of Error
1	J	6	J
2	K	7	K
3	T	8	T
4	E	9	E
5	N	10	N

E	Junction Styles		
Element Description	Grounded	Ungrounded	
	Common	Common	Isolated
Single	G		U
Duplex	D	F	H
Triplex	T	Q	R

F	Process Connection
1	1/2" NPT
2	3/4" NPT
3	1" NPT

G	Connection Head Model
A	None , 3" Split Leads
B	Cast Aluminum: Standard
C	Cast Aluminum: Mini
D	Polypropylene: FDA Appr.
E	Cast Iron: Standard
F	316 Stainless Steel
G	Explosion Proof

H	Conduit Opening
1	None
2	1/2" NPT
3	3/4" NPT

I	Connection Head Options
N	None
B	No Terminal Block
T	4-20mA Transmitter

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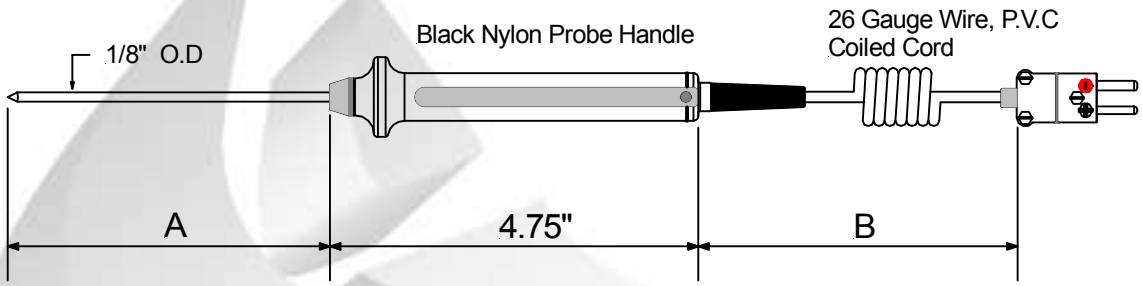
Process Industry RTD

Hand Held RTD Probe

Low temperature application
-200 C To +100 C



Operating Temperature: -200 C to +250 C

Steps To Follow:

Model: **1L** [1.] – [2.] – [3.] – [4.] – [5.] – [6.]

1. Probe Tip Option

R	Radius Tip Style
D	Drill Point Style

2. Termination Type

1	3" Split Leads & 1/2" Bare Ends.
2	Mini Male Plug (2 wire configuration only)

3. "A" Dimension

"A"= 0 4 "

Length In Inches

4. Coiled Cord "B" Dimension

	Retracted Length	Extended Length
A	12"	48" to 60"
B	24"	120"
C	32"	180"
D	60"	360"
E	96"	540"

5. RTD Element Type

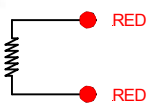
Ohms	Class A	Class B
1 x Pt100	2	1
2 x Pt100	4	3
1 x Pt1000	6	5
2 x Pt1000	8	7

Temperature Coefficient: 0.00385
Platinum element
IEC 751

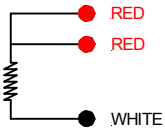
6. RTD Wire Connection

A	2 Wire Configuration
B	3 Wire Configuration

2 Wire Configuration



3 Wire Configuration



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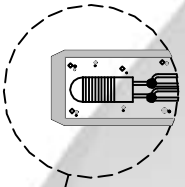
Mineral Insulated RTD

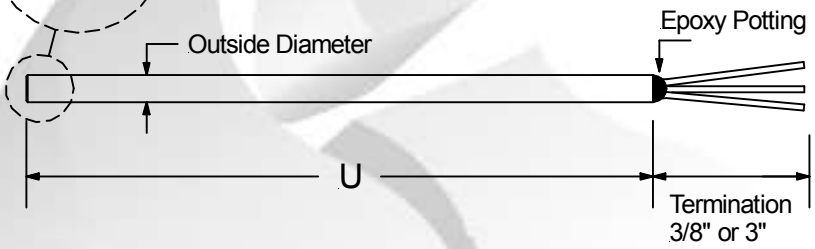
Straight RTD Elements

Operating Temperature:
-200 C to +500 C Max.

Ceramic RTD Element

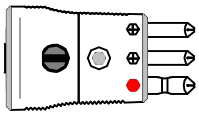


Flat Tip Construction
For Quicker Response

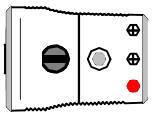


Model Code: 1M

Optional Male Connector



Optional Female Connector



Model: 1M [A] [B] [C] [D] – [E] [F] — [G]

A	Outside Diameter
1	0.079"
2	0.125"
3	0.188"
4	0.250"

B	Sheath Material
A	304 Stainless
B	316 Stainless

C	"U" Dimension
Specify " U " Length In Inches	0 0 6

Example "U" is 6" = 006

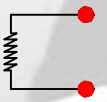
D	"U" Fractional Dimension
A	0.125"
B	0.188"
C	0.250"
D	0.315"
E	0.375"
F	0.500"
G	0.625"
H	0.750"
I	0.875"
N	None

E	RTD Element Type	
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

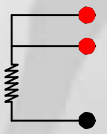
Temperature Coefficient: 0.00385
Platinum element
IEC 751

F	RTD Wire Connection
A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

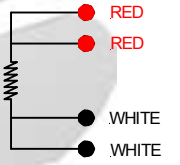
2 Wire Configuration



3 Wire Configuration



4 Wire Configuration



G	Termination Type
1	3/8" Split Bare Ends.
2	3" Split & Color Coded Leads.
3	Standard Male Plug
4	Standard Female Jack
5	Mini Male Plug
6	Mini Female Jack

Connectors can only be installed on 2 & 3 wire configuration RTDs.

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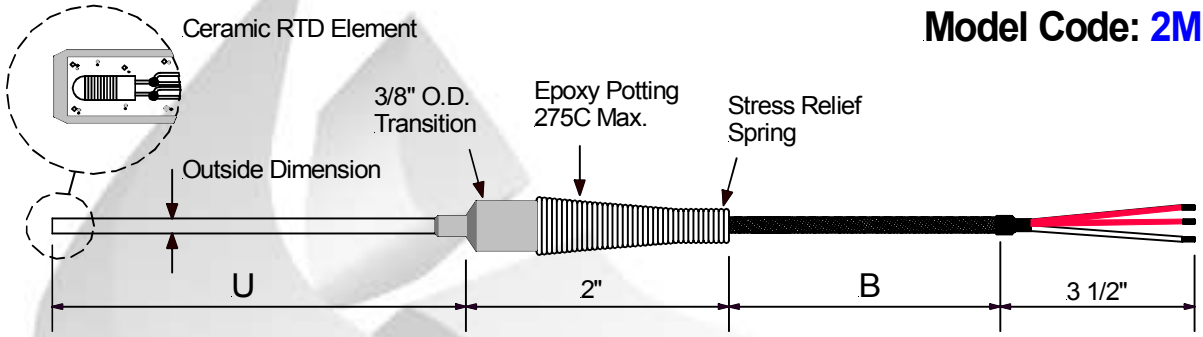
Mineral Insulated RT

General Purpose Type

Operating Temperature:
-200 C to +500 C Max.

Model Code: 2M



Model: **2M** [A] [B] [C] [D] – [E] [F] – [G] – [H] [I]

A Outside Diameter

1	0.079"
2	0.125"
3	0.188"
4	0.250"

B Sheath Material

A	304 Stainless
B	316 Stainless

C "U" Dimension

Specify " U " Length
In Inches 0 0 6

Example "U" is 6" = 006

D "U" Fractional Dimension

A	0.125"
B	0.188"
C	0.250"
D	0.315"
E	0.375"
F	0.500"
G	0.625"
H	0.750"
I	0.875"
N	None

E RTD Element Type

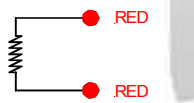
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385
Platinum element
IEC 751

F RTD Wire Connection

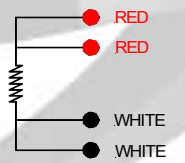
A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

2 Wire Configuration



3 Wire Configuration

4 Wire Configuration



G "B" Dimension

Specify " B " Length
In Inches 0 4 8

Example "B" is 48" = 048

H Cable Insulation Description

A	24 gage, Stranded, Fiberglass
B	24 gage, Fiberglass, Metal Braid
C	.281" O.D. Flexible Armor Cable
D	.210" O.D. Flexible Armor Cable
E	24 gage, Stranded, Teflon
F	24 gage, Stranded, Sheilded, Teflon
G	24 gage, Stranded, PVC
H	24 gage, Stranded, Sheilded, PVC

I Termination

1	3 1/2" Split leads & bare ends
2	3 1/2" Split leads & No.10 spade lugs
3	Standard Male Plug (350 F)
4	Standard Female Jack (350 F)
5	Mini Male Plug (350 F)
6	Mini Female Jack (350 F)

Connectors can only be installed on 2 & 3 wire configuration RTDs.

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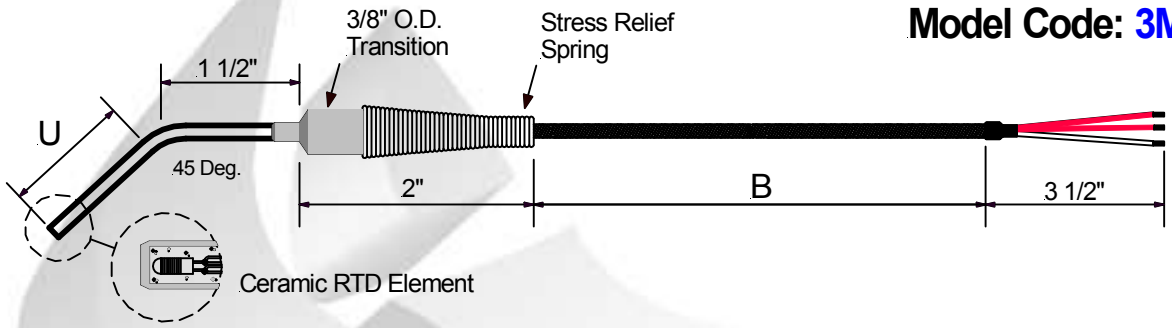
Mineral Insulated RT

General Purpose Type: 45 Deg. Bend

Operating Temperature:
-200 C to +500 C Max.

Model Code: 3M



Model: **3M** [A] [B] [C] [D] – [E] [F] – [G] – [H] [I]

A Outside Diameter

1	0.079"
2	0.125"
3	0.188"
4	0.250"

B Sheath Material

A	304 Stainless
B	316 Stainless

C "U" Dimension

Specify " U " Length
In Inches 0 0 6

Example "U" is 6" = 006

D "U" Fractional Dimension

A	0.125"
B	0.188"
C	0.250"
D	0.315"
E	0.375"
F	0.500"
G	0.625"
H	0.750"
I	0.875"
N	None

E RTD Element Type

Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

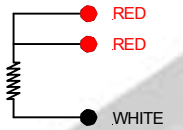
Temperature Coefficient: 0.00385
Platinum element
IEC 751

F RTD Wire Connection

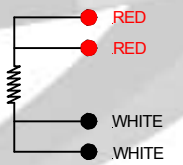
A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

2 Wire Configuration

3 Wire Configuration



4 Wire Configuration



G "B" Dimension

Specify " B " Length
In Inches 0 4 8

Example "B" is 48" = 048

H Cable Insulation Description

A	24 gage, Stranded, Fiberglass
B	24 gage, Fiberglass, Metal Braid
C	.281" O.D. Flexible Armor Cable
D	.210" O.D. Flexible Armor Cable
E	24 gage, Stranded, Teflon
F	24 gage, Stranded, Sheilded, Teflon
G	24 gage, Stranded, PVC
H	24 gage, Stranded, Sheilded, PVC

I Termination

1	3 1/2" Split leads & bare ends
2	3 1/2" Split leads & No.10 spade lugs
3	Standard Male Plug (350 F)
4	Standard Female Jack (350 F)
5	Mini Male Plug (350 F)
6	Mini Female Jack (350 F)

Connectors can only be installed on 2 & 3 wire configuration RTDs.

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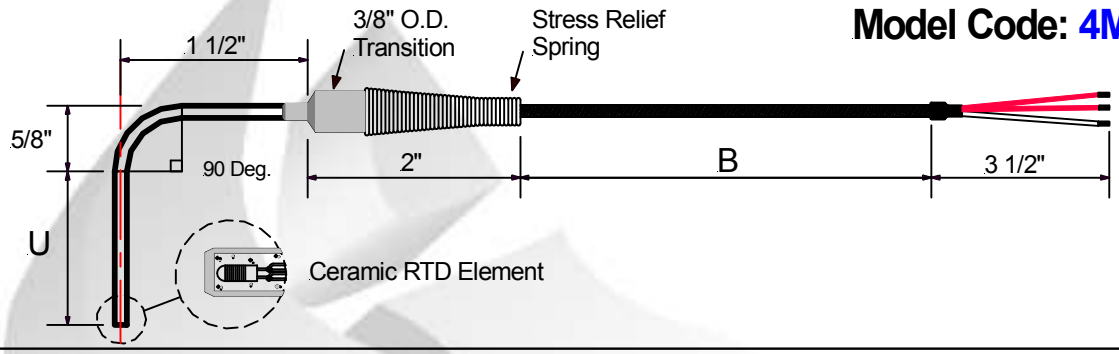
Mineral Insulated RT

General Purpose Type: 90 Deg. Bend

Operating Temperature:
-200 C to +500 C Max.

Model Code: 4M



Model: **4M** [A] [B] [C] [D] – [E] [F] – [G] – [H] [I]

A — Outside Diameter

1	0.079"
2	0.125"
3	0.188"
4	0.250"

B — Sheath Material

A	304 Stainless
B	316 Stainless

C — "U" Dimension

Specify " U " Length
In Inches 0 0 6

Example "U" is 6" = 006

D — "U" Fractional Dimension

A	0.125"
B	0.188"
C	0.250"
D	0.315"
E	0.375"
F	0.500"
G	0.625"
H	0.750"
I	0.875"
N	None

E — RTD Element Type

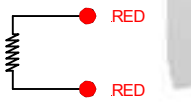
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385
Platinum element
IEC 751

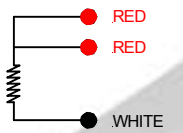
F — RTD Wire Connection

A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

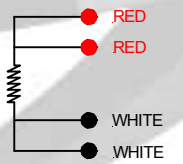
2 Wire Configuration



3 Wire Configuration



4 Wire Configuration



G — "B" Dimension

Specify " B " Length
In Inches 0 4 8

Example "B" is 48" = 048

H — Cable Insulation Description

A	24 gage, Stranded, Fiberglass
B	24 gage, Fiberglass, Metal Braid
C	.281" O.D. Flexible Armor Cable
D	.210" O.D. Flexible Armor Cable
E	24 gage, Stranded, Teflon
F	24 gage, Stranded, Sheilded, Teflon
G	24 gage, Stranded, PVC
H	24 gage, Stranded, Sheilded, PVC

I — Termination

1	3 1/2" Split leads & bare ends
2	3 1/2" Split leads & No.10 spade lugs
3	Standard Male Plug (350 F)
4	Standard Female Jack (350 F)
5	Mini Male Plug (350 F)
6	Mini Female Jack (350 F)

Connectors can only be installed
on 2 & 3 wire configuration RTDs.

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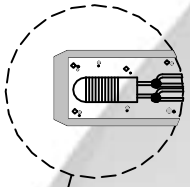
Mineral Insulated RTD

Metric Straight RTD Elements

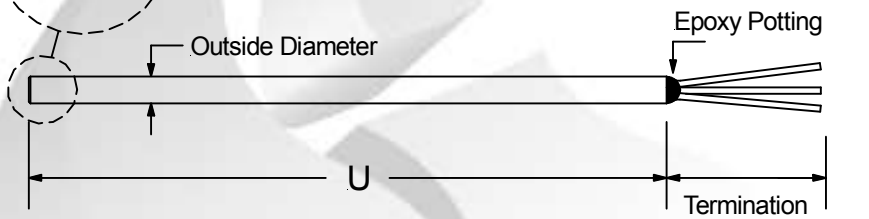
Operating Temperature:
-200 C to +500 C Max.

Ceramic RTD Element

Model Code: 5M

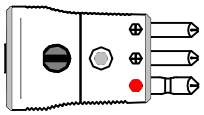


Flat Tip Construction
For Quicker Response

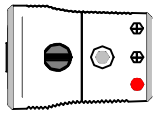


Compression fittings are sold seperatly. See accessory section.

Optional Male Connector



Optional Female Connector



Model: **5M** [A] [B] [C] — [D] [E] — [F]

A	Outside Diameter
1	2 mm
2	3 mm
3	4 mm
4	6 mm

B	Sheath Material
A	304 Stainless
B	316 Stainless

C	"U" Dimension
Specify " U " Length In mm	1 0 0

Example "U" is 100 mm = 100

D	RTD Element Type	
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

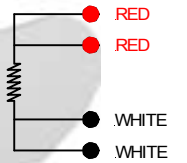
Temperature Coefficient: 0.00385
Platinum Element
IEC 751

E	RTD Wire Connection
A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

2 Wire Configuration

3 Wire Configuration

4 Wire Configuration



F	Termination Type
1	10 mm Split Bare Ends.
2	75 mm Split & Color Coded Leads.
3	Standard Male Plug
4	Standard Female Jack
5	Mini Male Plug
6	Mini Female Jack

Connectors can only be installed on 2 & 3 wire configuration RTDs.

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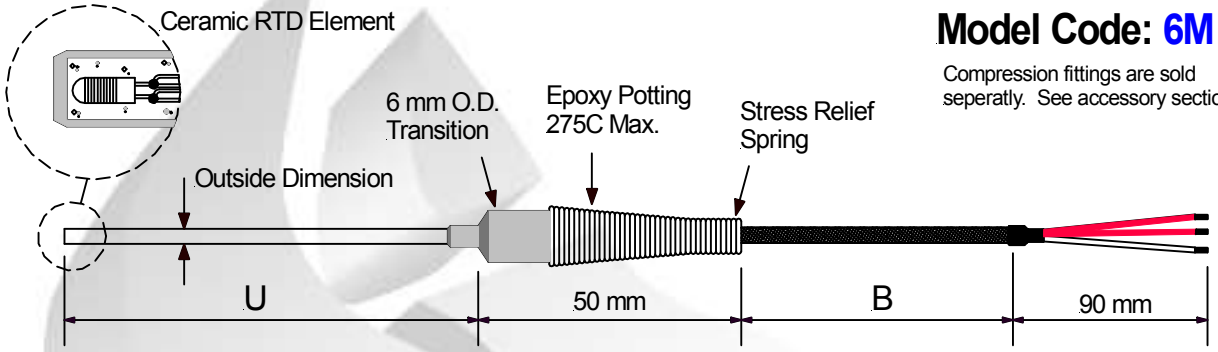
Mineral Insulated RT

Metric General Purpose Type

Operating Temperature:
-200 C to +500 C Max.



Model Code: 6M

Compression fittings are sold seperatly. See accessory section.

Model: **6M** [A] [B] [C] — [D] [E] - [F] - [G] [H]

A Outside Diameter

1	2 mm
2	3 mm
3	4 mm
4	6 mm

B Sheath Material

A	304 Stainless
B	316 Stainless

C "U" Dimension

Specify " U " Length
In mm 1 0 0

Example "U" is 100 mm = 100

D RTD Element Type

Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

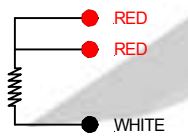
Temperature Coefficient: 0.00385
Platinum element
IEC 751

E RTD Wire Connection

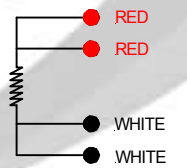
A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

2 Wire Configuration

3 Wire Configuration



4 Wire Configuration



F "B" Dimension

Specify " B " Length
In Meters 0 2

Example "B" is 2 Meters = 02

G Cable Insulation Description

A	24 gage, Stranded, Fiberglass
B	24 gage, Fiberglass, Metal Braid
C	.281" O.D. Flexible Armor Cable
D	.210" O.D. Flexible Armor Cable
E	24 gage, Stranded, Teflon
F	24 gage, Stranded, Sheilded, Teflon
G	24 gage, Stranded, PVC
H	24 gage, Stranded, Sheilded, PVC

H Termination

1	75 mm split leads & 15 mm bare ends
2	75 mm split leads & No.10 spade lugs
3	Standard Male Plug (350 F)
4	Standard Female Jack (350 F)
5	Mini Male Plug (350 F)
6	Mini Female Jack (350 F)

Connectors can only be installed on 2 & 3 wire configuration RTDs.

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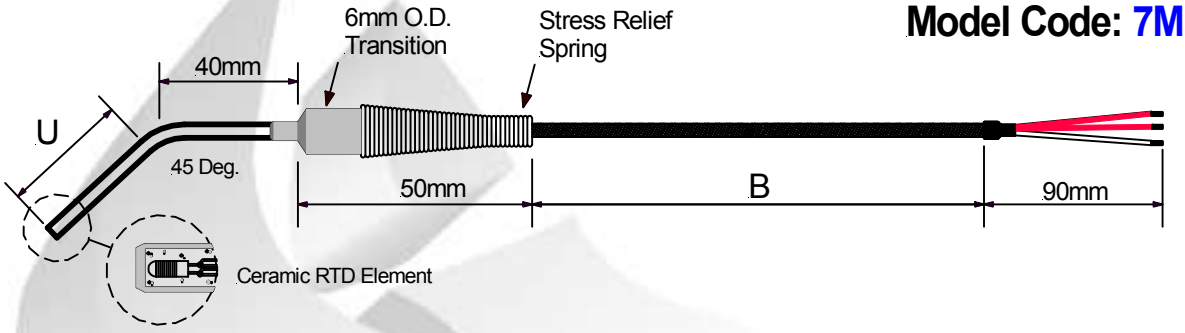
Mineral Insulated RT

Metric General Purpose Type: 45 Deg. Bend

Operating Temperature:
-200 C to +500 C Max.

Model Code: 7M



Compression fittings are sold seperatly. See accessory section.

Model: **7M** [A] [B] [C] — [D] [E] – [F] – [G] [H]

A	Outside Diameter
1	2 mm
2	3 mm
3	4 mm
4	6 mm

B	Sheath Material
A	304 Stainless
B	316 Stainless

C	"U" Dimension
Specify " U " Length In mm	1 0 0

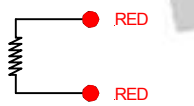
Example "U" is 100 mm = 100

D	RTD Element Type		
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

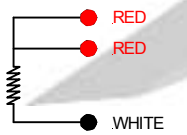
Temperature Coefficient: 0.00385
Platinum element
IEC 751

E	RTD Wire Connection
A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

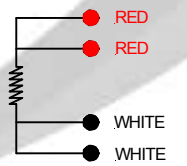
2 Wire Configuration



3 Wire Configuration



4 Wire Configuration



F	"B" Dimension
Specify " B " Length In Meters	0 2

Example "B" is 2 Meters = 02

G	Cable Insulation Description
A	24 gage, Stranded, Fiberglass
B	24 gage, Fiberglass, Metal Braid
C	.281" O.D. Flexible Armor Cable
D	.210" O.D. Flexible Armor Cable
E	24 gage, Stranded, Teflon
F	24 gage, Stranded, Sheilded, Teflon
G	24 gage, Stranded, PVC
H	24 gage, Stranded, Sheilded, PVC

H	Termination
1	75 mm split leads & 15 mm bare ends
2	75 mm split leads & No.10 spade lugs
3	Standard Male Plug (350 F)
4	Standard Female Jack (350 F)
5	Mini Male Plug (350 F)
6	Mini Female Jack (350 F)

Connectors can only be installed on 2 & 3 wire configuration RTDs.

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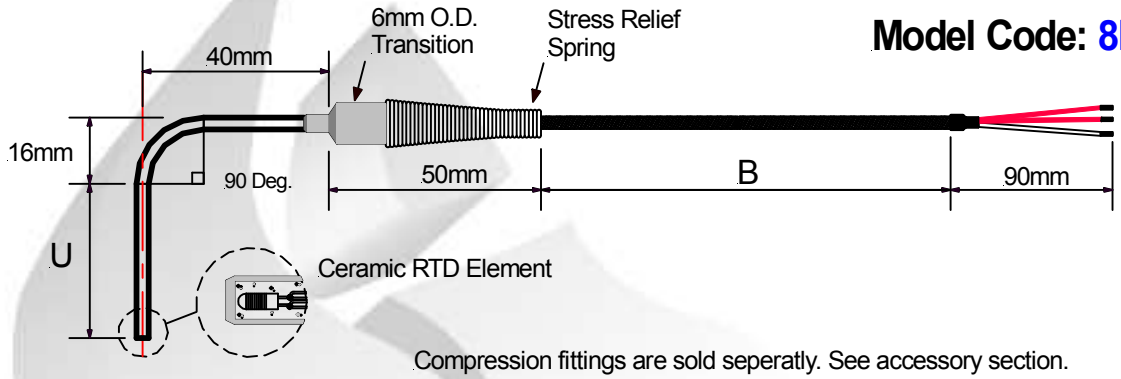
Mineral Insulated RT

Metric General Purpose Type: 90 Deg. Bend

Operating Temperature:
-200 C to +500 C Max.



Model Code: 8M

Compression fittings are sold seperatly. See accessory section.

Model: **8M** [A] [B] [C] — [D] [E] – [F] – [G] [H]

A Outside Diameter

1	2 mm
2	3 mm
3	4 mm
4	6 mm

B Sheath Material

A	304 Stainless
B	316 Stainless

C "U" Dimension

Specify " U " Length
In mm 1 0 0

Example "U" is 100 mm = 100

D RTD Element Type

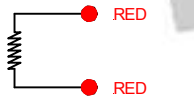
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385
Platinum element
IEC 751

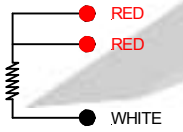
E RTD Wire Connection

A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

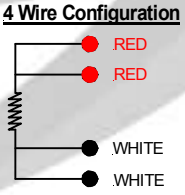
2 Wire Configuration



3 Wire Configuration



4 Wire Configuration



F "B" Dimension

Specify " B " Length
In Meters 0 2

Example "B" is 2 Meters = 02

G Cable Insulation Description

A	24 gage, Stranded, Fiberglass
B	24 gage, Fiberglass, Metal Braid
C	.281" O.D. Flexible Armor Cable
D	.210" O.D. Flexible Armor Cable
E	24 gage, Stranded, Teflon
F	24 gage, Stranded, Sheilded, Teflon
G	24 gage, Stranded, PVC
H	24 gage, Stranded, Sheilded, PVC

H Termination

1	75 mm split leads & 15 mm bare ends
2	75 mm split leads & No.10 spade lugs
3	Standard Male Plug (350 F)
4	Standard Female Jack (350 F)
5	Mini Male Plug (350 F)
6	Mini Female Jack (350 F)

Connectors can only be installed
on 2 & 3 wire configuration RTDs.

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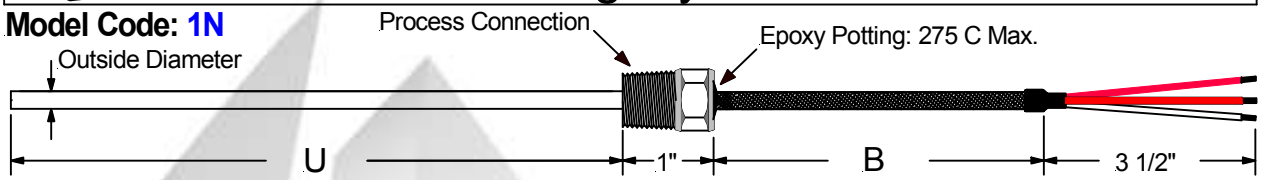
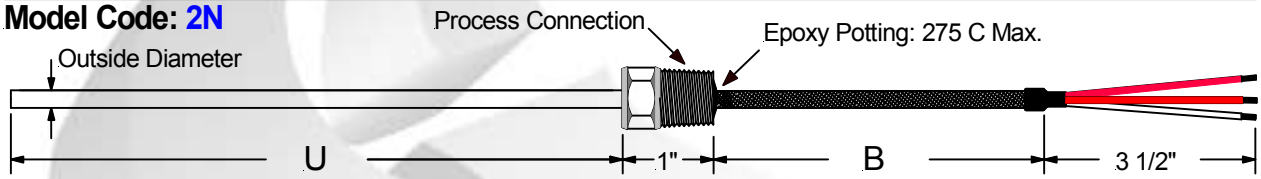
Mineral Insulated RTD
Hex Bushing Style RTD

Operating Temperature:
-200 C to +500 C Max.

Model Code: 1N



Model Code: 2N



Model: 1N / 2N — A B C D E F G — H I J

A	Outside Diameter
1	0.079"
2	0.125"
3	0.188"
4	0.250"

B	Sheath Material
A	304 Stainless
B	316 Stainless

C	"U" Dimension
Specify " U " Length In Inches	0 0 6

Example "U" is 6" = 006

D	"U" Fractional Dimension
A	0.125"
B	0.250"
C	0.375"
D	0.500"
E	0.750"
F	None

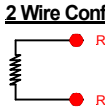
E	Process Connection
1	1/4" NPT
2	1/2" NPT
3	3/4" NPT

F	RTD Element Type		
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

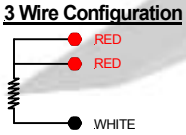
Temperature Coefficient: 0.00385
Platinum element
IEC 751

G	RTD Wire Connection
A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

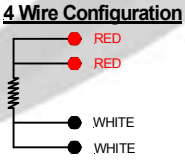
2 Wire Configuration



3 Wire Configuration



4 Wire Configuration



H	"B" Dimension
Specify " B " Length In Inches	0 4 8

Example "B" is 48" = 048

I	Cable Insulation Description
A	24 gage, Stranded, Fiberglass
B	24 gage, Fiberglass, Metal Braid
C	.281" O.D. Flexible Armor Cable
D	.210" O.D. Flexible Armor Cable
E	24 gage, Stranded, Teflon
F	24 gage, Stranded, Sheilded, Teflon
G	24 gage, Stranded, PVC
H	24 gage, Stranded, Sheilded, PVC

J	Termination
1	3 1/2" Split leads & bare ends
2	3 1/2" Split leads & No.10 spade lugs
3	Standard Male Plug (350 F)
4	Standard Female Jack (350 F)
5	Mini Male Plug (350 F)
6	Mini Female Jack (350 F)

Connectors can only be installed on 2 & 3 wire configuration RTDs.

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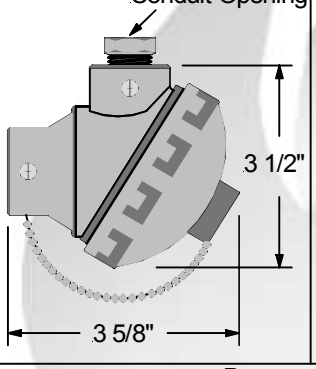
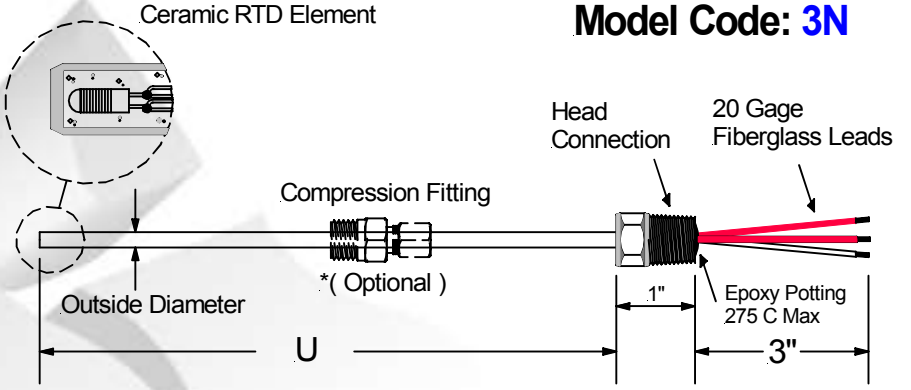
Mineral Insulated RTD Probe A

Compression Fitting Mounting Style

Operating Temperature:
-200 C to +500 C Max.

Connection Head





Model Code: 3N

Compression fittings are sold seperatly. See accessory section.

Model: **3N** | A | B | C | D | – | E | F | – | G | H | I | J

A	Outside Diameter
1	0.079"
2	0.125"
3	0.188"
4	0.250"

B	Sheath Material
A	304 Stainless
B	316 Stainless

C	"U" Dimension
Specify " U " Length In Inches	0 0 6

Example "U" is 6" = 006

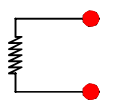
D	"U" Fractional Dimension
A	0.125"
B	0.250"
C	0.375"
D	0.500"
E	0.625"
F	0.750"
G	None

E	RTD Element Type		
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

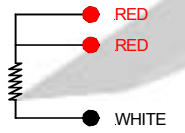
Temperature Coefficient: 0.00385
Platinum element
IEC 751

F	RTD Wire Connection
A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

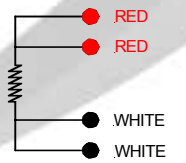
2 Wire Configuration



3 Wire Configuration



4 Wire Configuration



G	Head Connection
1	1/4" NPT
2	1/2" NPT
3	3/4" NPT

H	Connection Head Model
A	None , 3" Split Leads
B	Cast Aluminum: Standard
C	Cast Aluminum: Mini
D	Polypropylene: FDA Appr.
E	Cast Iron: Standard
F	316 Stainless Steel

I	Conduit Opening
1	None
2	1/2" NPT
3	3/4" NPT

J	Connection Head Options
N	None
T	4-20mA Transmitter
X	No Terminal Block

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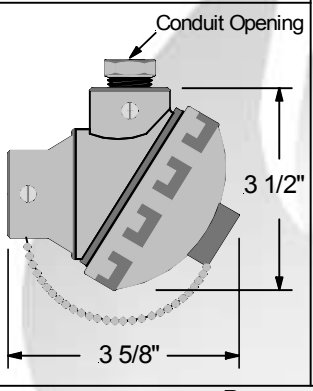
Mineral Insulated RTD Prob

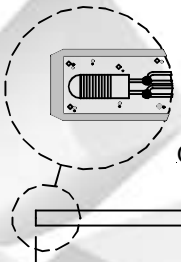
Hex Nipple Process Style

Operating Temperature:
-200 C to +500 C Max.

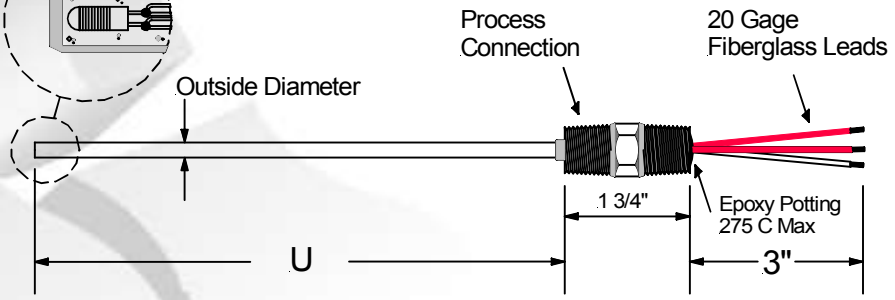
Connection Head



Ceramic RTD Element



Model Code: 4N



Model: **4N**

A	B	C	D	–	E	F	–	G	H	I	J

A	Outside Diameter
1	0.079"
2	0.125"
3	0.188"
4	0.250"

B	Sheath Material
A	304 Stainless
B	316 Stainless

C	"U" Dimension
Specify " U " Length In Inches	0 0 6

Example "U" is 6" = 006

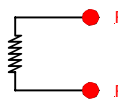
D	"U" Fractional Dimension
A	0.125"
B	0.250"
C	0.375"
D	0.500"
E	0.625"
F	0.750"
G	None

E	RTD Element Type		
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

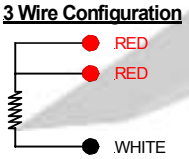
Temperature Coefficient: 0.00385
Platinum element
IEC 751

F	RTD Wire Connection
A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

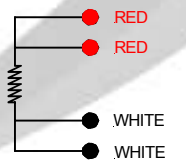
2 Wire Configuration



3 Wire Configuration



4 Wire Configuration



G	Process Connection
1	1/4" NPT
2	1/2" NPT
3	3/4" NPT

H	Connection Head Model
A	None , 3" Split Leads
B	Cast Aluminum: Standard
C	Cast Aluminum: Mini
D	Polypropylene: FDA Appr.
E	Cast Iron: Standard
F	316 Stainless Steel
G	Explosition Proof

I	Conduit Opening
1	None
2	1/2" NPT
3	3/4" NPT

J	Connection Head Options
N	None
B	No Terminal Block
S	Spring Loaded
T	4-20mA Transmitter
R	Options S & T
Q	Options S & B

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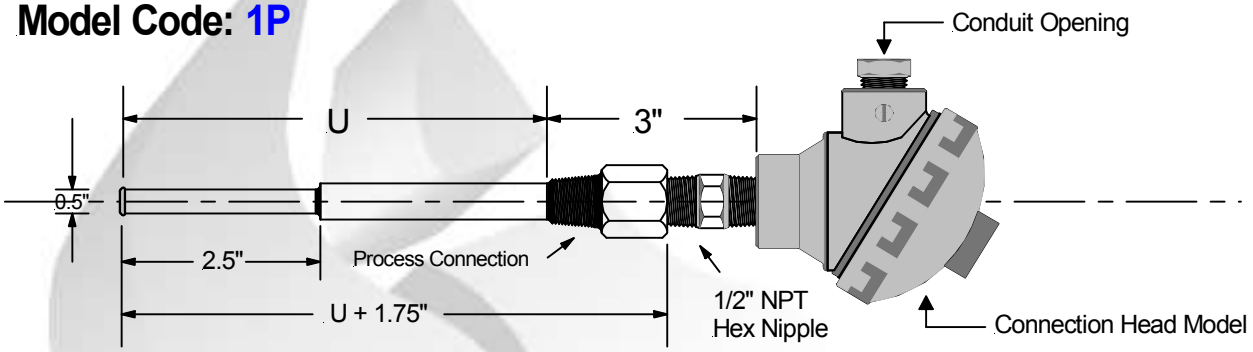
Mineral Insulated RTD & Thermowe

Standard Stepped Threaded Thermowell

Operating Temperature:
-200 C to +500 C Max.

Model Code: 1P



All Thermowell Assemblies Are Spring Loaded.

Model: **1P** | A | B | — | C | D | — | E | F | G | H

A	"U" Fractional Dimension
A	1 5/8"
B	2 1/2"
C	4 1/2"
D	7 1/2"
E	10 1/2"
F	13 1/2"
G	16 1/2"
H	22 1/2"

For all other U lengths contact factory for availability.

C	RTD Element Type	
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385
Platinum element
IEC 751

E	Process Connection
1	1/2" NPT
2	3/4" NPT
3	1" NPT

F	Connection Head Model
A	None , 3" Split Leads
B	Cast Aluminum: Standard
C	Cast Aluminum: Mini
D	Polypropylene: FDA Appr.
E	Cast Iron: Standard
F	316 Stainless Steel
G	Explosion Proof

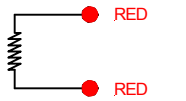
D	RTD Wire Connection
A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

B	Sheath Material
1	304 Stainless
2	316 Stainless
3	Solid Teflon

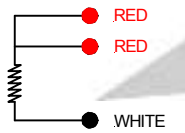
For all other materials contact factory for availability.

G	Conduit Opening
1	None
2	1/2" NPT
3	3/4" NPT

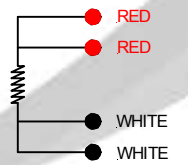
2 Wire Configuration



3 Wire Configuration



4 Wire Configuration



H	Connection Head Options
N	None
B	No Terminal Block
T	4-20mA Transmitter

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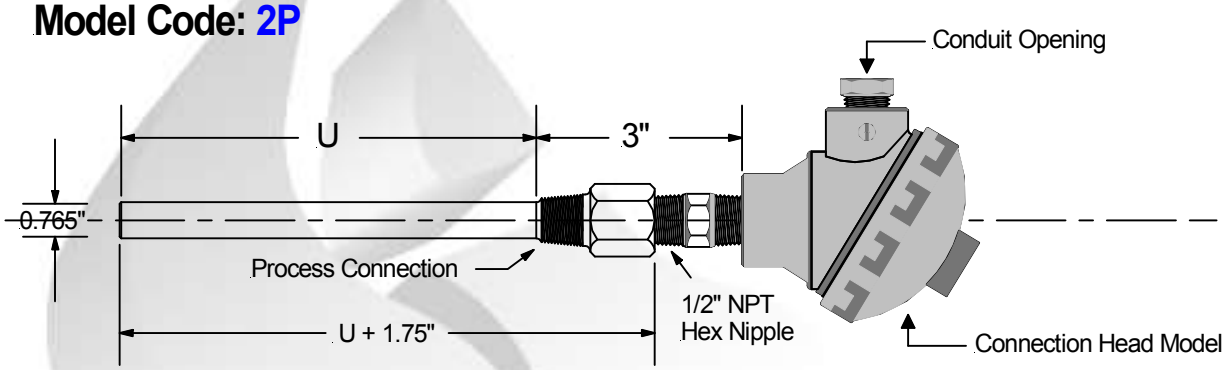
Mineral Insulated RTD & Thermowell As

Standard Straight Threaded Thermowell

Operating Temperature:
-200 C to +500 C Max.

Model Code: 2P



All Thermowell Assemblies Are Spring Loaded.

Model: **2P** [A] [B] — [C] [D] — [E] [F] [G] [H]

A	"U" Fractional Dimension
A	1 5/8"
B	2 1/2"
C	4 1/2"
D	7 1/2"
E	10 1/2"
F	13 1/2"
G	16 1/2"
H	22 1/2"

For all other U lengths contact factory for availability.

C	RTD Element Type	
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385
Platinum element
IEC 751

E	Process Connection
1	1/2" NPT
2	3/4" NPT
3	1" NPT

F	Connection Head Model
A	None , 3" Split Leads
B	Cast Aluminum: Standard
C	Cast Aluminum: Mini
D	Polypropylene: FDA Appr.
E	Cast Iron: Standard
F	316 Stainless Steel
G	Explosion Proof

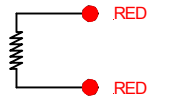
D	RTD Wire Connection
A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

B	Sheath Material
1	304 Stainless
2	316 Stainless
3	Solid Teflon

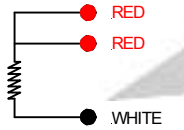
For all other materials contact factory for availability.

G	Conduit Opening
1	None
2	1/2" NPT
3	3/4" NPT

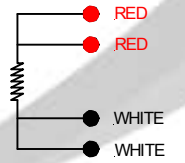
2 Wire Configuration



3 Wire Configuration



4 Wire Configuration



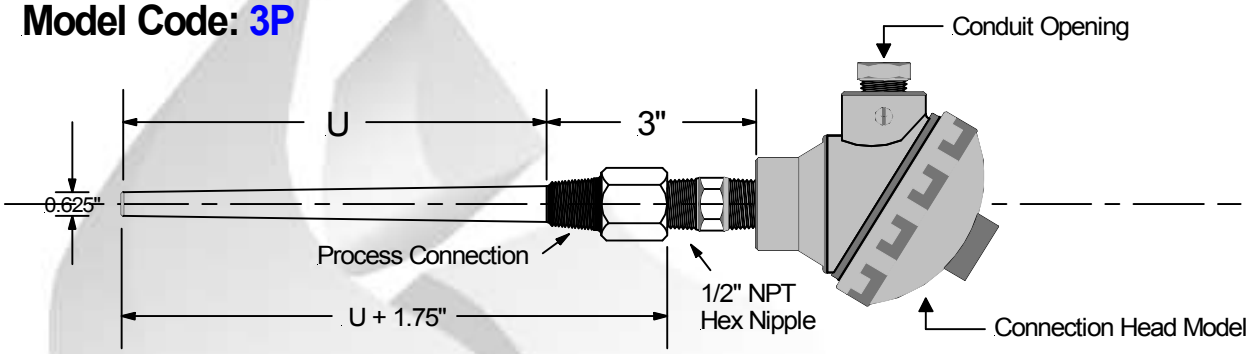
H	Connection Head Options
N	None
B	No Terminal Block
T	4-20mA Transmitter

Mineral Insulated RTD & Thermow

Standard Tapered Threaded Thermowell

Operating Temperature:
-200 C to +500 C Max.

Model Code: 3P



All Thermowell Assemblies Are Spring Loaded.

Model: **3P** [A] [B] — [C] [D] — [E] [F] [G] [H]

A	"U" Fractional Dimension
A	1 5/8"
B	2 1/2"
C	4 1/2"
D	7 1/2"
E	10 1/2"
F	13 1/2"
G	16 1/2"
H	22 1/2"

For all other U lengths contact factory for availability.

C	RTD Element Type		
	Ohms	Class A	Class B
	1 x Pt100	1	2
	2 x Pt100	3	4
	1 x Pt1000	5	6
	2 x Pt1000	7	8

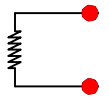
Temperature Coefficient: 0.00385
Platinum element
IEC 751

D	RTD Wire Connection
A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

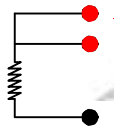
B	Sheath Material
1	304 Stainless
2	316 Stainless
3	Solid Teflon

For all other materials contact factory for availability.

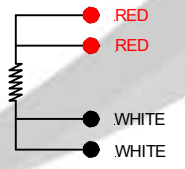
2 Wire Configuration



3 Wire Configuration



4 Wire Configuration



E	Process Connection
1	1/2" NPT
2	3/4" NPT
3	1" NPT

F	Connection Head Model
A	None , 3" Split Leads
B	Cast Aluminum: Standard
C	Cast Aluminum: Mini
D	Polypropylene: FDA Appr.
E	Cast Iron: Standard
F	316 Stainless Steel
G	Explosion Proof

G	Conduit Opening
1	None
2	1/2" NPT
3	3/4" NPT

H	Connection Head Options
N	None
B	No Terminal Block
T	4-20mA Transmitter

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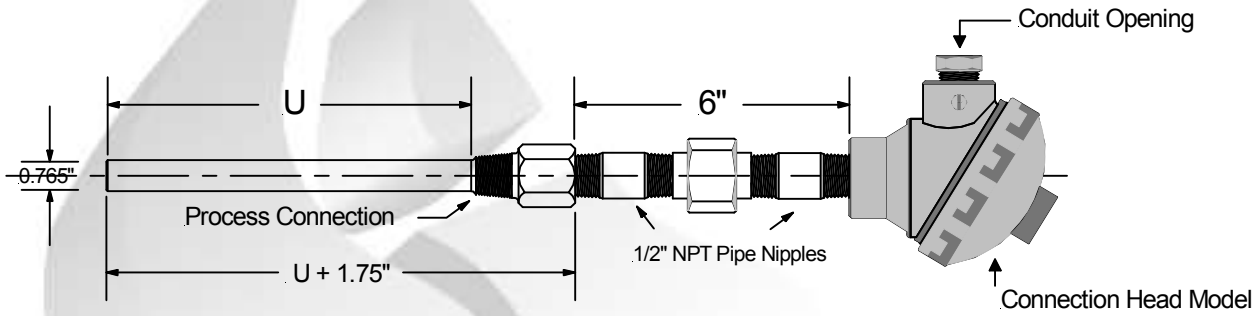
Mineral Insulated RTD & Thermowe

Nipple-Union-Nipple-Thermowell Style

Operating Temperature:
-200 C to +500 C Max.

Model Code: 4P



All Thermowell Assemblies Are Spring Loaded.

Model: **4P** — A B C — D E — F G H I

A	Thermowell Type
1	Stepped
2	Straight
3	Tapered

B	"U" Fractional Dimension
A	1 5/8"
B	2 1/2"
C	4 1/2"
D	7 1/2"
E	10 1/2"
F	13 1/2"
G	16 1/2"
H	22 1/2"

For all other U lengths contact factory for availability.

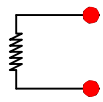
C	Sheath Material
1	304 Stainless
2	316 Stainless
3	Solid Teflon

D	RTD Element Type	
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

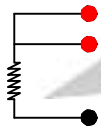
Temperature Coefficient: 0.00385
Platinum element
IEC 751

E	RTD Wire Connection
A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

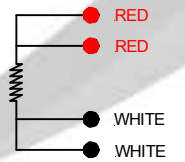
2 Wire Configuration



3 Wire Configuration



4 Wire Configuration



F	Process Connection
1	1/2" NPT
2	3/4" NPT
3	1" NPT

G	Connection Head Model
A	None , 3" Split Leads
B	Cast Aluminum: Standard
C	Cast Aluminum: Mini
D	Polypropylene: FDA Appr.
E	Cast Iron: Standard
F	316 Stainless Steel
G	Explosion Proof

H	Conduit Opening
1	None
2	1/2" NPT
3	3/4" NPT

I	Connection Head Options
N	None
B	No Terminal Block
T	4-20mA Transmitter

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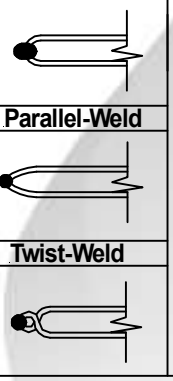
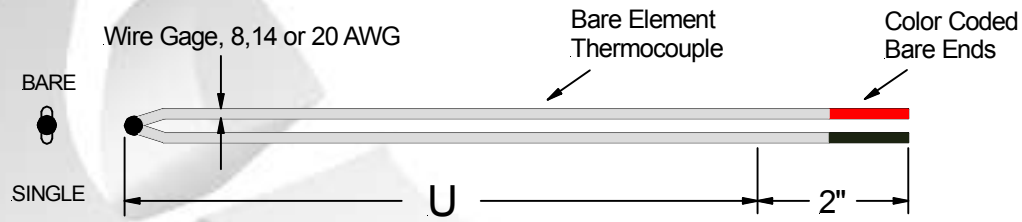
INDUSTRIAL THERMOCC

Base Metal Bare Thermocouple Elements

1	Butt-Weld
2	Parallel-Weld
3	Twist-Weld



Model: Q1



Steps: A — B — C — D

Model: **Q1** [A] — [B] — [C] — [D]

A	Junction Weld Description
A	Butt-weld
B	Parallel-weld
C	Twist-weld

C	Calibration		
Standard Limits of Error		Special Limits of Error	
A	J	C	J
B	K	D	K

D	"U" Dimension
Specify " U " Length In Inches	0 1 8

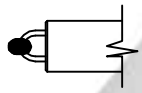
Example "U" is 18" = 018

B	Thermocouple Wire Gage	
Model	Wire Gage	Description
1	8	No Ceramic Insulators, Bare Thermocouple Element
2	14	No Ceramic Insulators, Bare Thermocouple Element
3	20	No Ceramic Insulators, Bare Thermocouple Element

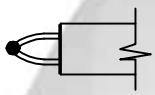
INDUSTRIAL THERMOCC

Base Metal Thermocouple Elements With Ceramic Insulators

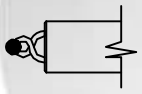
1 Butt-Weld



2 Parallel-Weld



3 Twist-Weld



Model: Q2

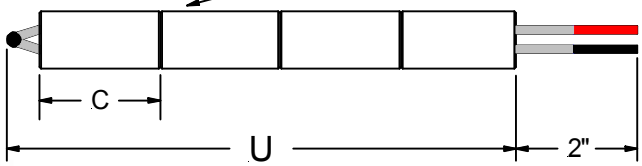
ROUND DUAL

ROUND SINGLE

OVAL SINGLE

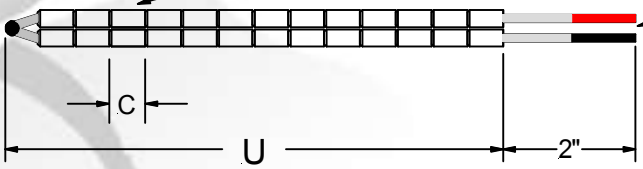
BALL & SOCKET SINGLE

Mullite Ceramic Insulators



Ball & Socket Ceramic Insulators

Color Coded Bare Ends



Steps: A B C D

Model: **Q2** ____ — ____ — ____ — _____

A	Junction Weld Description
A	Butt-weld
B	Parallel-weld
C	Twist-weld

C	Calibration		
Standard Limits of Error		Special Limits of Error	
A	J	C	J
B	K	D	K

D	"U" Dimension
Specify " U " Length In Inches	0 1 8

Example "U" is 18" = 018

B Wire Gage & Ceramic Insulator Selection

Model	Wire Gage	Shape	"C" Length	Outside Diameter	Elements
1	8	Round	1"	0.468"	Single
2	8	Round	3"	0.500"	Single
3	8	Oval	1"	0.435" x 0.250"	Single
4	8	Oval	3"	0.562" x 0.312"	Single
5	14	Round	1"	0.250"	Single
6	14	Round	3"	0.281"	Single
7	14	Round	1"	0.312"	Dual
8	14	Oval	1"	0.312" x 0.187"	Single
9	14	Oval	3"	0.375" x 0.217"	Single
10	20	Round	1"	0.187"	Single
11	20	Round	3"	0.225"	Single
12	8	Ball & Socket	0.260"	0.260"	Single
13	14	Ball & Socket	0.200"	0.200"	Single
14	20	Ball & Socket	0.170"	0.170"	Single

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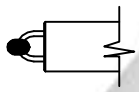
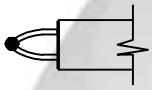
INDUSTRIAL THERMOCO

Base Metal Angle Thermocouple Elements With Ceramic Insulators

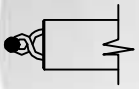
1 Butt-Weld



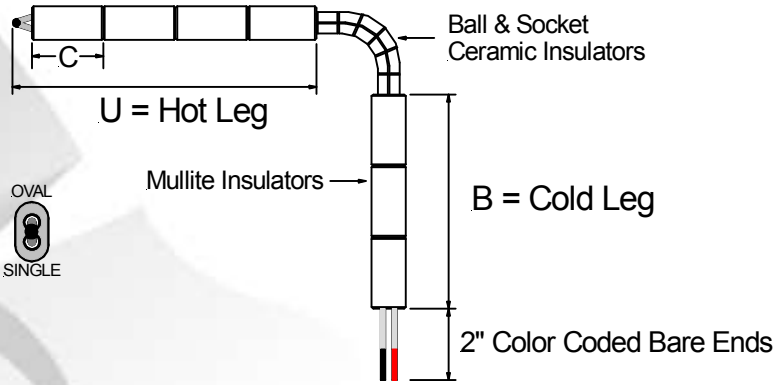
2 Parallel-Weld



3 Twist-Weld



Model: Q3



Steps: A B C D E

Model: **Q3** ___ ___ ___ — ___ — ___

A	Junction Weld Description
A	Butt-weld
B	Parallel-weld
C	Twist-weld

C	Calibration			
Standard Limits of Error		Special Limits of Error		
A	J	C	J	
B	K	D	K	

D	"U" Hot Dimension
Specify " U " Length In Inches	1 2

Example "U" is 12" = 12

E	"B" Cold Dimension
Specify " B " Length In Inches	1 8

Example "U" is 18" = 18

B Wire Gage & Ceramic Insulator Selection

Model	Wire Gage	Shape	"C" Length	Outside Diameter	Elements
1	8	Round	1"	0.468"	Single
2	8	Round	3"	0.500"	Single
3	8	Oval	1"	0.435" x 0.250"	Single
4	8	Oval	3"	0.562" x 0.312"	Single
5	14	Round	1"	0.250"	Single
6	14	Round	3"	0.281"	Single
7	14	Round	1"	0.312"	Dual
8	14	Oval	1"	0.312" x 0.187"	Single
9	14	Oval	3"	0.375" x 0.217"	Single
10	20	Round	1"	0.187"	Single
11	20	Round	3"	0.225"	Single

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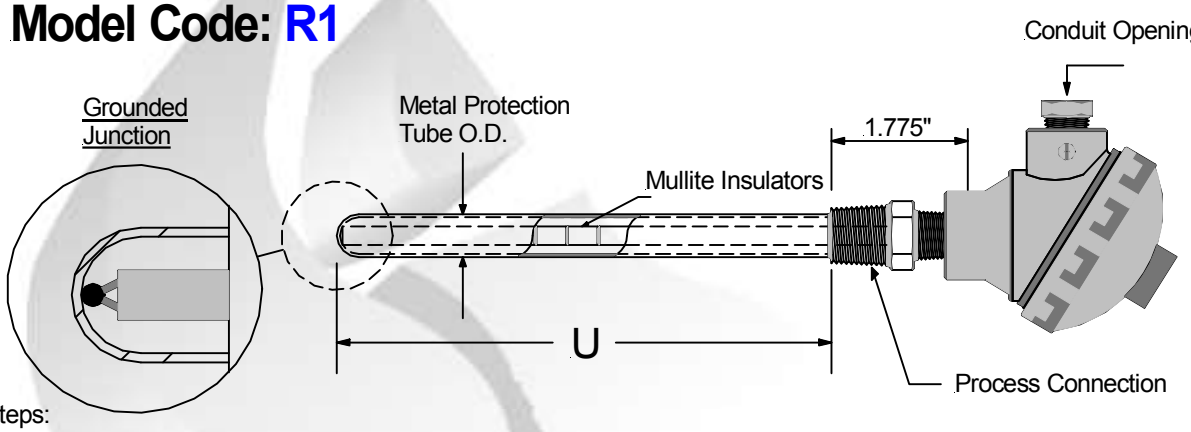
INDUSTRIAL THERMOCOU

Base Metal Thermocouple & Metal Protection Tube Assembly

Model Code: R1



Steps:

Model:

A	B	C	D	E	F	G		H	I	J
R1	___	___	___	___	___	___	___	—	___	___	___

A	Outside Diameter
1	1/4" NPT Pipe
2	1/2" NPT Pipe
3	3/4" NPT Pipe

B	Wall Thickness
1	Schedule 20
2	Schedule 40
3	Schedule 80

C	Sheath Material
A	Carbon Steel
B	304 SS
C	316 SS
D	Inconel 600
E	Ceramic Coated

D	"U" Dimension
Specify " U " Length In Inches	0 0 6

Example "U" is 6" = 006

E	Calibration		
	Standard Limits of Error		Special Limits of Error
A	J	C	J
B	K	D	K

F	Junction			
Wire Gage	Gounded		Ungounded	
	Single	Dual	Single	Dual
8	1	4	7	10
14	2	5	8	11
20	3	6	9	12

G	Process Connection
1	None
2	1/2" NPT
3	3/4" NPT
4	1" NPT

H	Connection Head Model
A	None , 3" Split Leads
B	Cast Aluminum: Standard
C	Cast Aluminum: Mini
D	Black Nylon Head
E	Cast Iron: Standard Size
F	316 Stainless Steel
G	Explosion Proof

I	Conduit Opening
1	None
2	1/2" NPT
3	3/4" NPT

J	Connection Head Options
N	None
B	No Terminal Block
T	4-20mA Transmitter

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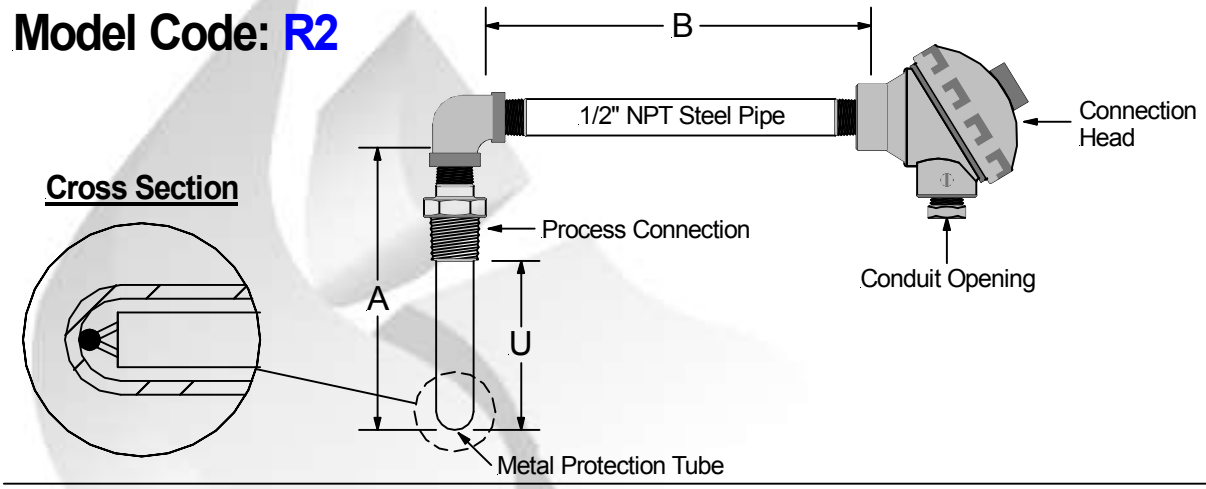
INDUSTRIAL THERMOCOUPL

Base Metal Angle Thermocouple & Metal Protection Tube Assembly

Model Code: R2



Cross Section

Steps: A B C D E F G H I J K L

Model: R2 ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

A	Protection Tube O.D.
A	1/4" Pipe
B	1/2" Pipe
C	3/4" Pipe

B	Wall Thickness
1	Schedule 20
2	Schedule 40
3	Schedule 80

C	Sheath Material
A	Carbon Steel
B	304 SS
C	316 SS
D	Inconel 600
E	Ceramic Coated

D	"A" Dimension
Specify " A " Length In Inches	0 1 2

Example "A" is 12" = 012

E	Calibration		
	Standard Limits of Error		Special Limits of Error
A	J	C	J
B	K	D	K

F	Junction			
Wire Gage	Gounded		Ungounded	
	Single	Dual	Single	Dual
8	1	4	7	10
14	2	5	8	11
20	3	6	9	12

G	Process Connection
A	None
B	1/2" NPT
C	3/4" NPT
D	1" NPT

H	"U" Dimension
Specify " U " Length In Inches	0 0 8

Example "U" is 8" = 008

I	Connection Head Model
A	None , 3" Split Leads
B	Cast Aluminum: Standard
C	Cast Aluminum: Mini
D	Black Nylon Head
E	Cast Iron: Standard Size
F	316 Stainless Steel
G	Explosion Proof

J	Conduit Opening
1	None
2	1/2" NPT
3	3/4" NPT

K	Connection Head Options
N	None
B	No Terminal Block
T	4-20mA Transmitter

L	"B" Insertion
Specify " B " Length In Inches	0 1 8

Example "B" is 18" = 018

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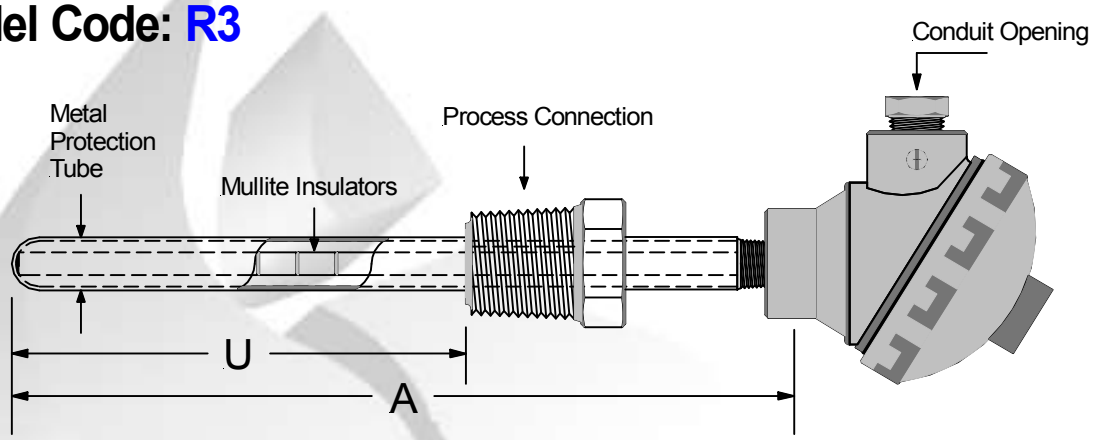
INDUSTRIAL THERMOCOUPL

Base Metal Thermocouple & Metal Protection Tube Assembly

Model Code: R3



Steps:	A	B	C	D	E	F	G	H	I	J	K
Model: R3											

A Protection Tube O.D.

A	1/4" Pipe
B	1/2" Pipe
C	3/4" Pipe

D "A" Dimension

Specify " A " Length In Inches 0 1 2

Example "A" is 12" = 012

H "U" Dimension

Specify " U " Length In Inches 0 0 8

Example "U" is 8" = 008

E Calibration

Standard Limits of Error		Special Limits of Error	
A	J	C	J
B	K	D	K

I Connection Head Model

A	None , 3" Split Leads
B	Cast Aluminum: Standard
C	Cast Aluminum: Mini
D	Black Nylon Head
E	Cast Iron: Standard Size
F	316 Stainless Steel
G	Explosion Proof

B Wall Thickness

1	Schedule 20
2	Schedule 40
3	Schedule 80

F Junction

Wire Gage	Gounded		Ungounded	
	Single	Dual	Single	Dual
8	1	4	7	10
14	2	5	8	11
20	3	6	9	12

J Conduit Opening

1	None
2	1/2" NPT
3	3/4" NPT

C Sheath Material

A	Carbon Steel
B	304 SS
C	316 SS
D	Inconel 600
E	Ceramic Coated

G Process Connection

A	1/2" NPT Hex Bushing
B	3/4" NPT Hex Bushing
C	1" NPT Hex Bushing

K Connection Head Options

N	None
B	No Terminal Block
T	4-20mA Transmitter

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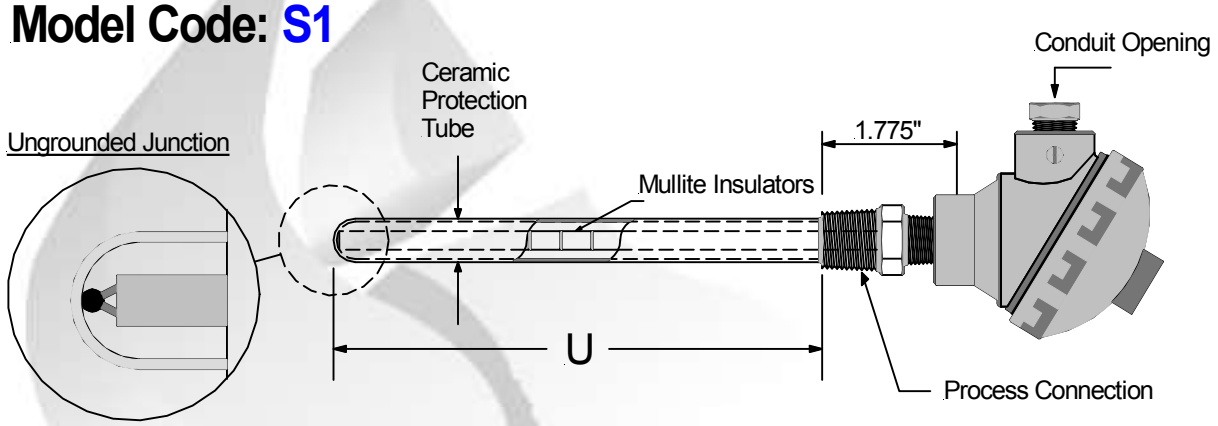
INDUSTRIAL THERMOCOU

Base Metal Thermocouple & Ceramic Protection Tube Assembly

Model Code: S1



Model: **S1** | A | B | C | — | D | E | F | — | G | H | I

A Ceramic Tube Size

A	1/4" O.D.
B	3/8" O.D.
C	1/2" O.D.
D	11/16" O.D.
E	1" O.D.

B Protection Tube

1	Alumina 1800C Max.
2	Mullite 1600C Max.

C "U" Dimension

Specify " U " Length In Inches 0 6

Example "U" is 6" = 06

D Calibration

Standard Limits of Error		Special Limits of Error	
A	J	C	J
B	K	D	K

E Wire Size

Gage	Single	Dual
8	1	4
14	2	5
20	3	6

F Process Connection

1	None
2	1/2" NPT
3	3/4" NPT
4	1" NPT

G Connection Head Model

A	None , 3" Split Leads
B	Cast Aluminum: Standard
C	Cast Aluminum: Mini
D	Black Nylon Head
E	Cast Iron: Standard Size
F	316 Stainless Steel
G	Explosion Proof

H Conduit Opening

1	None
2	1/2" NPT
3	3/4" NPT

I Connection Head Options

N	None
B	No Terminal Block
T	4-20mA Transmitter

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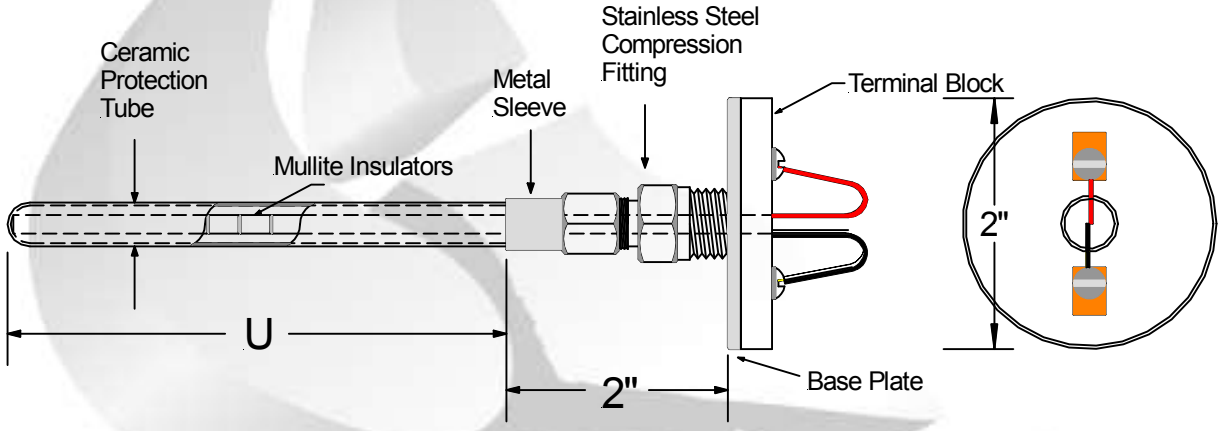
INDUSTRIAL THERMOCOU

Base Metal Thermocouple, Ceramic Protection Tube & Terminal Block Assembly

Model Code: S2

Operating Temperature:
+1000 C Max.



Model: **S2** [A] [B] [C] — [D] [E] — [F]

A	Ceramic Tube Size
A	1/4" O.D.
B	3/8" O.D.

B	Protection Tube
1	Alumina 1800C Max.
2	Mullite 1600C Max.

C	"U" Dimension
Specify " U " Length In Inches	0 6

Example "U" is 6" = 06

D	Calibration			
Standard Limits of Error		Special Limits of Error	
A	J	C	J
B	K	D	K

E	Wire Size	
Gage	Single	Dual
20	1	4
24	2	5

F	Terminal Block Description
A	Ceramic
B	Ceramic, Spring Loaded
C	Plastic, 1" Dia. Micro Head Size

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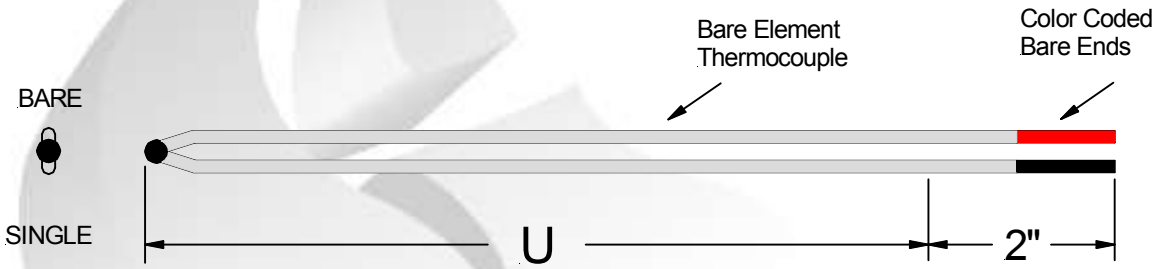
NOBEL METAL THERMOC

Bare Element Thermocouples

Model: T1



Steps: A B C

Model: **T1** ___ — ___ — ___ ___ ___

A	Wire Gage
A	20 Gage
B	24 Gage
C	26 Gage
D	28 Gage

B	Calibration			
	Standard Limits of Error		Special Limits of Error	
A	S		D	S
B	R		E	R
C	B		F	B

C	"U" Dimension
Specify " U " Length In Inches	0 1 8

Example "U" is 18" = 018

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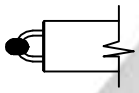
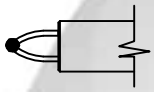
NOBEL METAL THERMOCO

Nobel Metal Thermocouple Elements With Ceramic Insulators

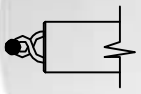
1 Butt-Weld



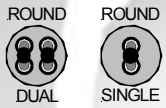
2 Parallel-Weld

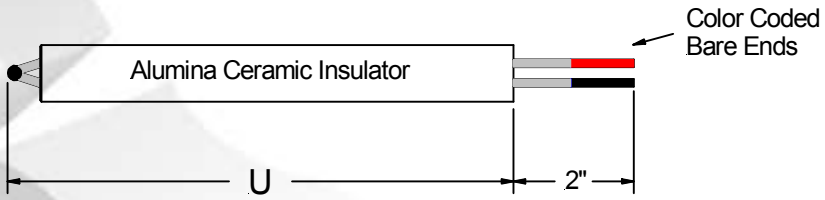


3 Twist-Weld



Model: T2





Steps: A — B — C — D

Model: **T2** ____ — ____ — ____ — _____

A	Wire Size	
Gage	Single	Dual
20	1	5
24	2	6
26	3	7
28	4	8

B	Insulator Diameter
A	1/8" O.D.
B	3/16" O.D.
C	1/4" O.D.

C	Calibration		
Standard Limits of Error		Special Limits of Error	
A	S	D	S
B	R	E	R
C	B	F	B

D	"U" Dimension
Specify " U " Length In Inches	0 1 8

Example "U" is 18" = 018

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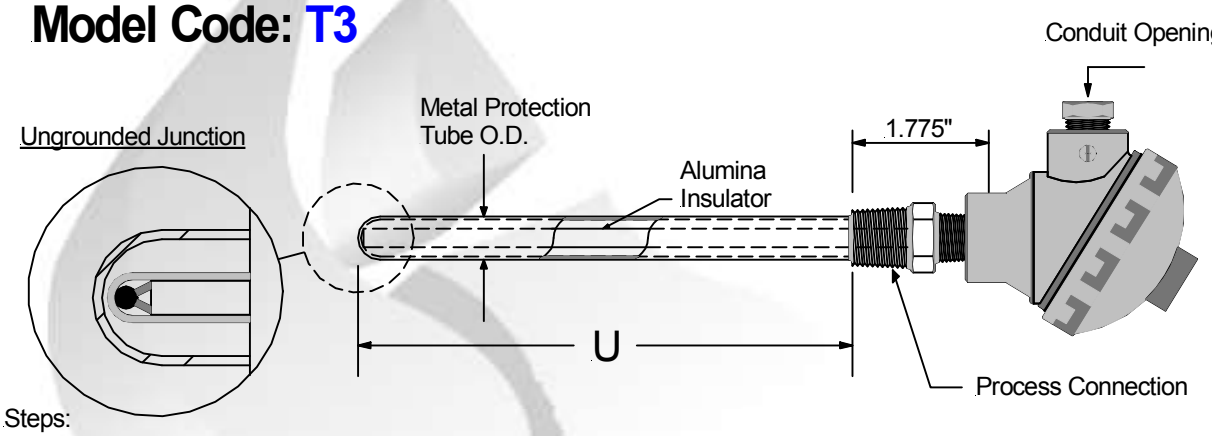
NOBEL METAL THERMOCO

Nobel Metal Thermocouple & Metal Protection Tube Assembly

Model Code: T3



Steps:

Model:

A	B	C	D	E	F	G		H	I	J
T3	___	___	___	___	___	___	___	—	___	___	___

A	Outside Diameter
1	1/4" NPT Pipe
2	1/2" NPT Pipe
3	3/4" NPT Pipe

B	Wall Thickness
1	Schedule 20
2	Schedule 40
3	Schedule 80

C	Sheath Material
A	Carbon Steel
B	304 SS
C	316 SS
D	Inconel 600
E	Ceramic Coated

D	"U" Dimension
Specify " U " Length In Inches	0 6

Example "U" is 6" = 06

E	Calibration		
	Standard Limits of Error		Special Limits of Error
A	S	D	S
B	R	E	R
C	B	F	B

F	Wire Size	
Gage	Single	Dual
20	1	5
24	2	6
26	3	7
28	4	8

G	Process Connection
1	None
2	1/2" NPT
3	3/4" NPT
4	1" NPT

H	Connection Head Model
A	None , 3" Split Leads
B	Cast Aluminum: Standard
C	Cast Aluminum: Mini
D	Black Nylon Head
E	Cast Iron: Standard Size
F	316 Stainless Steel
G	Explosion Proof

I	Conduit Opening
1	None
2	1/2" NPT
3	3/4" NPT

J	Connection Head Options
N	None
B	No Terminal Block
T	4-20mA Transmitter

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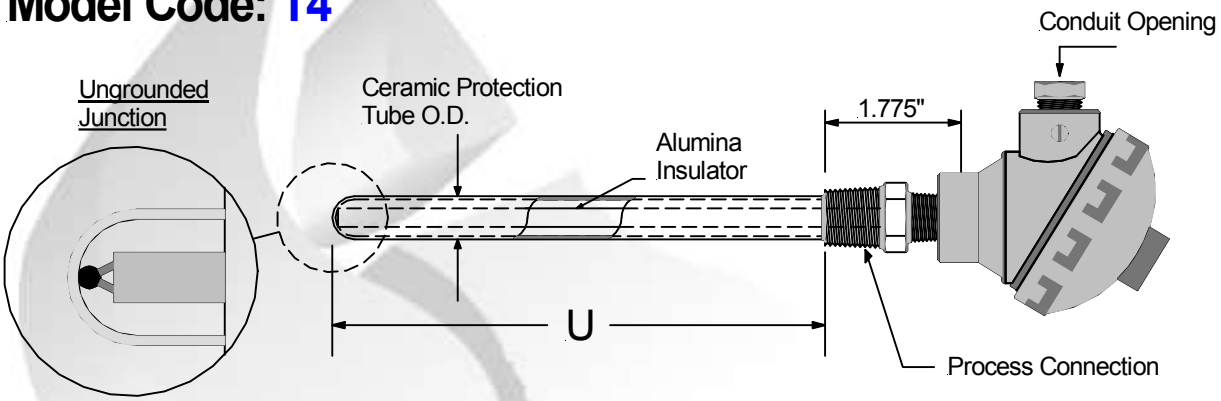
NOBEL METAL THERMOC(

Nobel Metal Thermocouple & Ceramic Protection Tube Assembly

Model Code: T4



Model: **T4** A B C — D E F — G H I

A	Ceramic Tube Size
A	1/4" O.D.
B	3/8" O.D.
C	1/2" O.D.
D	11/16" O.D.
E	1" O.D.

B	Protection Tube
1	Alumina 1800C Max.
2	Mullite 1600C Max.

C	"U" Dimension
Specify " U " Length In Inches	0 6

Example "U" is 6" = 06

D	Calibration			
	Standard Limits of Error		Special Limits of Error	
A	S	D	S	
B	R	E	R	
C	B	F	B	

E	Wire Size	
Gage	Single	Dual
20	1	5
24	2	6
26	3	7
28	4	8

F	Process Connection
1	None
2	1/2" NPT
3	3/4" NPT
4	1" NPT

G	Connection Head Model
A	None , 3" Split Leads
B	Cast Aluminum: Standard
C	Cast Aluminum: Mini
D	Black Nylon Head
E	Cast Iron: Standard Size
F	316 Stainless Steel
G	Explosion Proof

H	Conduit Opening
1	None
2	1/2" NPT
3	3/4" NPT

I	Connection Head Options
N	None
B	No Terminal Block
T	4-20mA Transmitter

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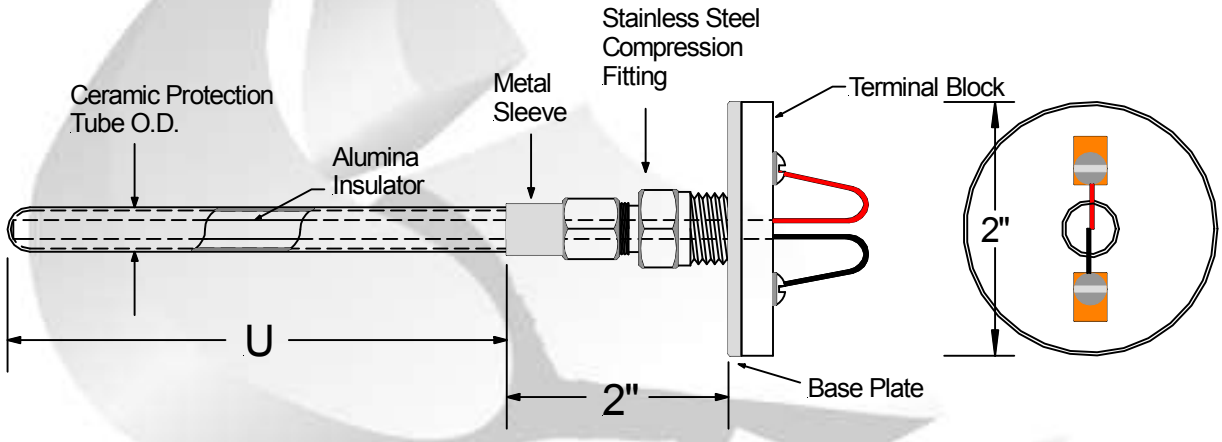
NOBEL METAL THERMOCO

Nobel Metal Thermocouple, Ceramic Protection Tube & Terminal Block Assembly

Model Code: T5

Operating Temperature:
+1000 C Max.



Model: **T5** — A B C — D E — F

A	Ceramic Tube Size
1	1/4" O.D.
2	3/8" O.D.

B	Protection Tube
A	Alumina 1800C Max.
B	Mullite 1600C Max.

C	"U" Dimension
Specify " U " Length In Inches	0 6

Example "U" is 6" = 06

D	Calibration			
	Standard Limits of Error		Special Limits of Error	
A	S	D	S	
B	R	E	R	
C	B	F	B	

E	Wire Size	
Gage	Single	Dual
20	1	5
24	2	6
26	3	7
28	4	8

F	Terminal Block Description
A	Ceramic
B	Ceramic, Spring Loaded
C	Plastic, 1" Dia. Micro Head Size

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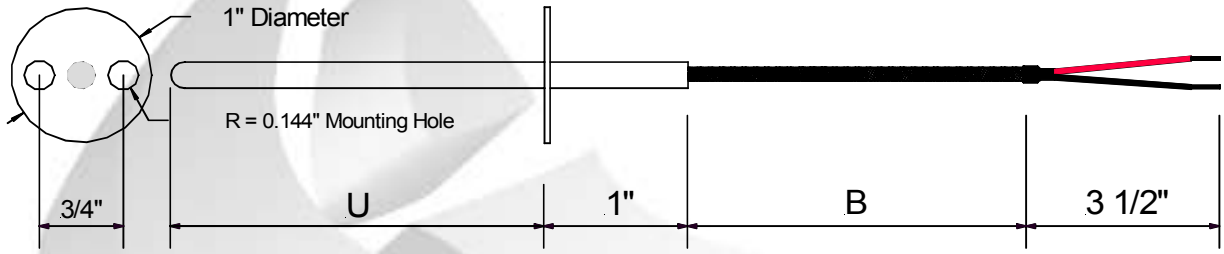
SPECIAL THERMOCOUPLE A

Flanged Style Tube & Wire Thermocouple Probe

Model Code: Z1

Maximum operating temperature: 900F or 500C



Model:	A	B	C	D	E	F	G	H	I		J	K
Z1	___	___ ___	___	___ ___ ___	___	___	___	___	___	–	___	___

A Outside Diameter

A	1/8"
B	3/16"
C	1/4"
D	5/16"

B "U" Dimension

Specify " U " Length In Inches 0 6

Example "U" is 6" = 06

C "U" Length Fractional

A	0"
B	1/8"
C	3/16"
D	1/4"
E	1/2"
F	5/8"
G	3/4"
H	7/8"

D "B" Dimension

Specify " B " Length In Inches 0 4 8

Example "B" is 48" = 048

E Calibration

	+	–
J	White	Red
K	Yellow	Red
T	Blue	Red

F Junction Styles

Element Description	Grounded	Ungrounded	
	Common	Common	Isolated
Single	G		U
Duplex	D	C	I

G Cable Conductor Description

1	24 Gage, Solid Conductor
2	24 Gage, 7 Stranded Conductors
3	20 Gage, Solid Conductor
4	20 Gage, 7 Stranded Conductors

H Cable Insulation Description

A	Fiberglass Insulation: 950F / 510C
B	Teflon Insulation: 500F / 260C
C	P.V. C. Insulation: 221F / 105C
D	Teflon, Shielded + Drain Wire
E	P.V.C., Shieded + Drain Wire

I Outer Jacket Protection

1	None
2	Stainless Steel Braid
3	Armor Flexible Cable: 0.280" Outside Diameter
4	Armor Flexible Cable 0.210" Outside Diameter

Metal Braid Protection not available on P.V.C insulation cable.

J Termination

A	3 1/2" Split leads & bare ends
B	3 1/2" Split leads & No.10 spade lugs.
C	Standard Male Plug (350 F)
D	Standard Female Jack (350 F)
E	Mini Male Plug (350 F)
F	Mini Female Jack (350 F)

K Termination Options

1	None
2	Bx Connector
3	Cable Clamp

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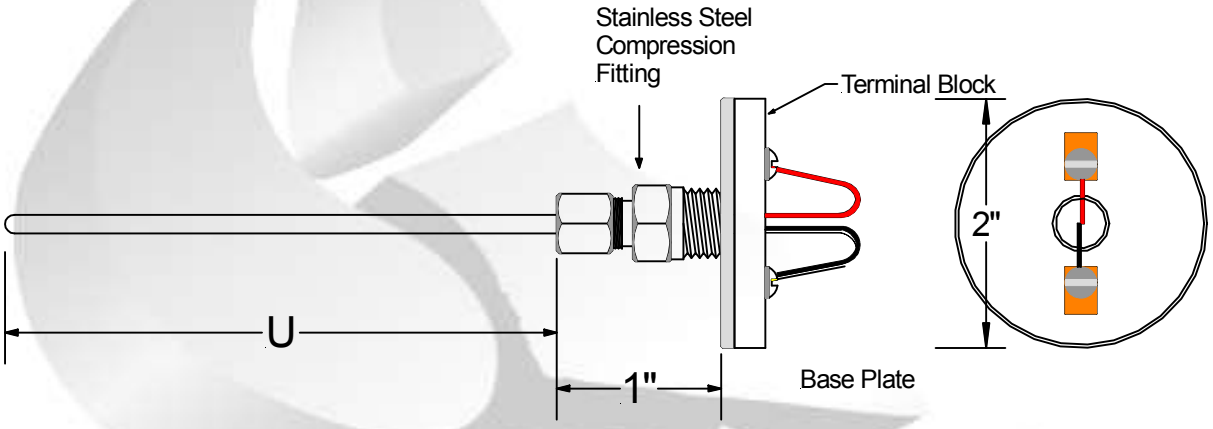
SPECIAL THERMOCOUPLE AS

Mineral Insulated Thermocouple & Terminal Block Assembly

Model Code: Z2

Operating Temperature:
-200 C to +1000 C Max.



Model: Z2 [A] [B] — [C] [D] — [E]

A	Outside Diameter
A	1/8" O.D.
B	3/16" O.D.
C	1/4" O.D.
D	1/2" O.D.

B	"U" Dimension
Specify " U " Length In Inches	0 6

Example "U" is 6" = 06

C	Calibration			
Standard Limits of Error		Special Limits of Error	
A	J	D	J
B	K	E	K
C	T	F	T

D	Junction Styles		
Element Description	Grounded	Ungrounded	
	Common	Common	Isolated
Single	G		U
Duplex	D	F	H

E	Terminal Block Description
A	Ceramic
B	Ceramic, Spring Loaded
C	Plastic, Micro Head Size

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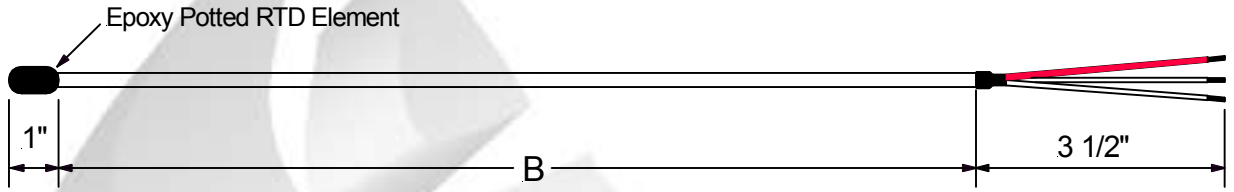
SPECIAL SENSOR ASSE

Epoxy Potted RTD Assembly

Low temperature application

Model Code: Z3



Operating Temperature: -200 C to +250 C

Steps To Follow:

Model: Z3 [1.] [2.] [3.] - [4.] - [5.] [6.]

1. Wire Description

S	24 Gage Stranded Stainless Steel Braid
F	24 Gage Stranded Fiberglass Cable
T	24 Gage Stranded Teflon Cable

2. Termination Type

0	3" Split Leads & 1/2" Bare Ends.
1	3" Slip Leads & Spade Lugs
2	Standard Male Plug (2 & 3 Wire config. only)
3	Standard Female Jack (2 & 3 Wire config. only)
4	Mini Male Plug (2 & 3 Wire config. only)
5	Mini Female Jack (2 & 3 Wire config. only)

3. Accessories

N	None
X	Bx Connector
C	Cable Clamp

4. "B" Dimension

"B"= 0 4 8 "

Leads Wire Length In Inches

5. RTD Element Type

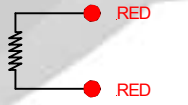
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385
Platinum element
IEC 751

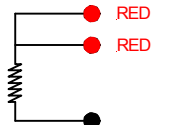
6. RTD Wire Connection

2	2 Wire Configuration
3	3 Wire Configuration
4	4 Wire Configuration

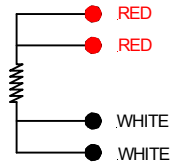
2 Wire Configuration



3 Wire Configuration



4 Wire Configuration



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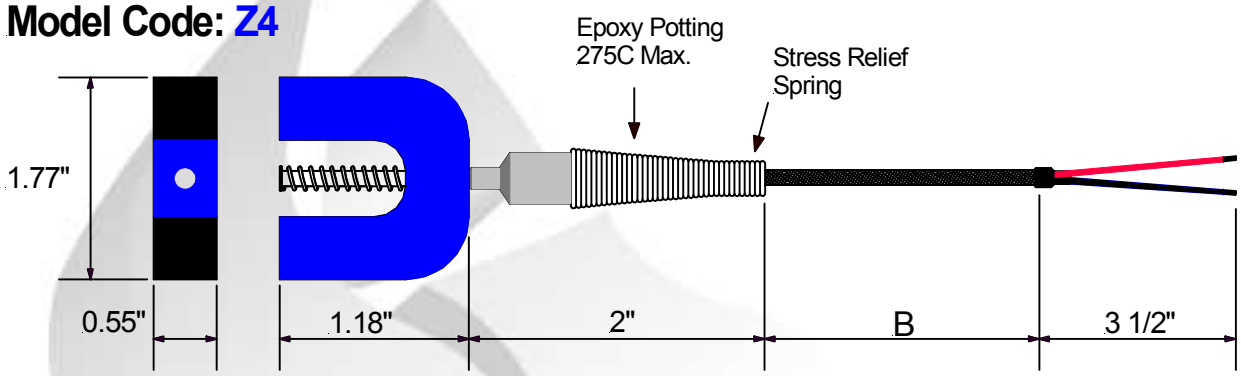
SPECIAL THERMOCOUPLE AS

MAGNET MOUNT THERMOCOUPLE

Operating Temperature:
-200 C to +1000 C Max.

Model Code: Z4



Model: Z4 — A B C — D E F

A	Magnet Pull
1	12 lbs
2	24 lbs

D	"B" Dimension
Specify " B " Length In Inches	0 4 8

Example "B" is 48" = 048

B	Calibration			
Standard Limits of Error		Special Limits of Error	
1	J	6	J
2	K	7	K
3	T	8	T
4	E	9	E
5	N	10	N

E	Cable Insulation Description
A	20 Gage, Stranded, Metal Braid
B	20 Gage, Stranded, Fiberglass
C	.281" O.D. Flexible Armor Cable
D	20 Gage, Stranded, Teflon
E	20 Gage, Stranded, PVC

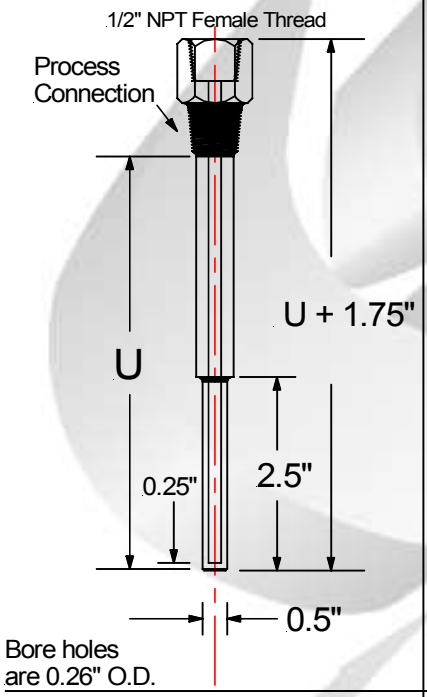
C	Junction Styles		
Element Description	Grounded	Ungrounded	
	Common	Common	Isolated
Single	G		U
Duplex	D	F	H

F	Termination
1	3" Split Leads & 1/2" bare ends.
2	3" Split Leads & Spade Lugs.
3	Standard Male Plug (425 F)
4	Standard Female Jack (425 F)
5	Mini Male Plug (425 F)
6	Mini Female Jack (425 F)
7	Hi Temp. Male Plug (800 F)
8	Hi Temp. Female Jack (800 F)

ACCESSORIES

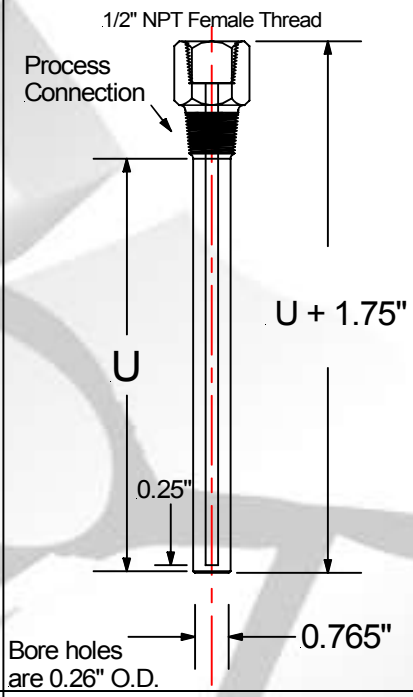
P-SERIES THERMOWELLS

Stepped Thermowell



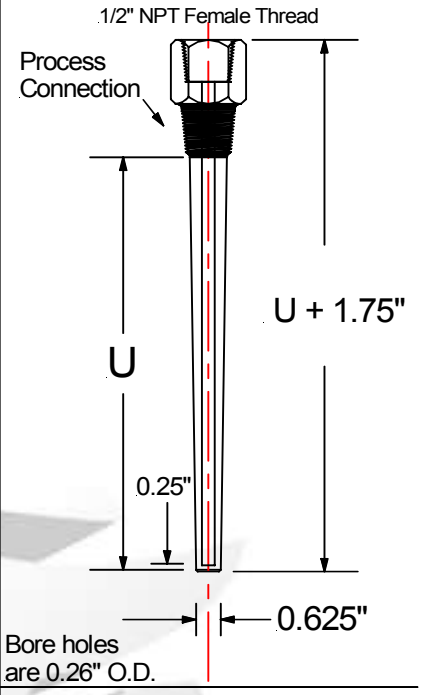
Model Code: P1

Straight Thermowell



Model Code: P2

Tapered Thermowell



Model Code: P3

Model — A — B — C

Thermowell Model	
1	P1
2	P2
3	P3

A	"U" Fractional Dimension
A	1 5/8"
B	2 1/2"
C	4 1/2"
D	7 1/2"
E	10 1/2"
F	13 1/2"
G	16 1/2"
H	22 1/2"

For all other U lengths contact factory for availability.

B	Sheath Material
1	304 Stainless
2	316 Stainless
3	Inconel 600
4	Carbon Steel
5	Solid Teflon

For all other materials contact factory for availability.

C	Process Connection
A	1/2" NPT
B	3/4" NPT
C	1" NPT

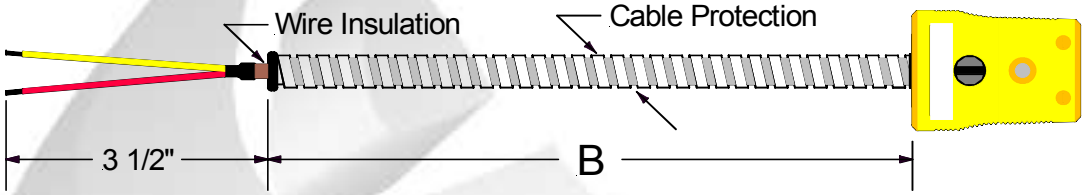
ACCESSORIES

THERMOCOUPLE EXTENTION CABLES

(Step No. 2)
Input Termination

Model Code: X1

(Step No. 8)
Output Termination



Model:

	1.	2.	3.		4.		5.	6.	7.	8.	9.
X1				-	_ _ _	-					

1. Calibration

J	(+) Iron Vs. (-) Constantan
K	(+) Ni.-Chromium Vs. (-) Ni.-Aluminum
T	(+) Copper Vs. (-) Constantan
E	(+) Ni.-Chromium Vs. (-) Constantan
N	(+) Nicrosil Vs. (-) Nisil

2. Input Termination Option

1	3" Split Leads & 1/2" Bare Ends.
2	3" Split Leads & No.10 Spade Lugs.
3	Standard Male Plug
4	Standard Female Jack
5	Mini Male Plug
6	Mini Female Jack

3. Input Accessories

A	None
B	Bx Connector
C	Cable Clamp

4. "B" Dimension

"B"= 0 4 8 "

Leads Wire Length In Inches

5. Wire Gage Description

A	24 Gage Stranded Conductors
B	24 Gage Solid Conductors
C	20 Gage Stranded Conductors
D	20 Gage Solid Conductors

6. Wire Insulation Description

1	Fiberglass Insulation Jacket
2	Teflon Insulation Jacket
3	Teflon Jacket, Tin foil Sheild & Drain Wire
4	P.V.C. Insulation Jacket
5	P.V.C. Jacket, Tin foil Sheild & Drain Wire

7. Wire Cable Protection

N	None
S	Stanless Steel Overbraid
F	Flexible Armor Cable

8. Output Termination Option

1	3" Split Leads & 1/2" Bare Ends.
2	3" Split Leads & No.10 Spade Lugs.
3	Standard Male Plug
4	Standard Female Jack
5	Mini Male Plug
6	Mini Female Jack

9. Output Accessories

A	None
B	Bx Connector
C	Cable Clamp

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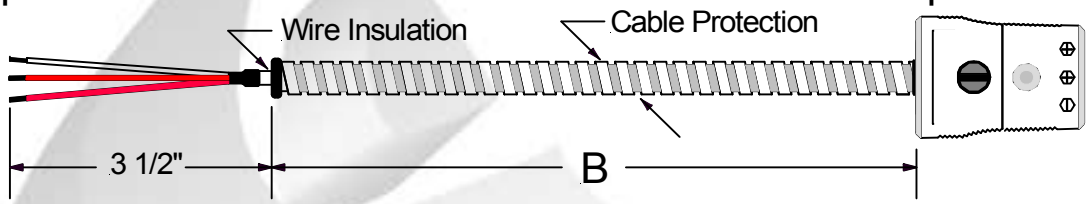
ACCESSORIES

RTD EXTENTION CABLES

(Step No. 2)
Input Termination

Model Code: X2

(Step No. 8)
Output Termination



Model:

	1.	2.	3.		4.		5.	6.	7.	8.	9.
X2				-		-					

1. Number Of Conductors

A	2 Conductors
B	3 Conductors
C	4 Conductors

2. Input Termination Option

1	3" Split Leads & 1/2" Bare Ends.	
2	3" Split Leads & No.10 Spade Lugs.	
3	Standard Male Plug	2 & 3 Wire Cable, Only
4	Standard Female Jack	2 & 3 Wire Cable, Only
5	Mini Male Plug	2 & 3 Wire Cable, Only
6	Mini Female Jack	2 & 3 Wire Cable, Only

3. Input Accessories

A	None
B	Bx Connector
C	Cable Clamp

4. "B" Dimension

"B"= 0 4 8 "

Leads Wire Length In Inches

5. Wire Gage Description

A	26 Gage Stranded Conductors
B	24 Gage Stranded Conductors
C	20 Gage Stranded Conductors

6. Wire Insulation Description

1	Fiberglass Insulation Jacket
2	Teflon Insulation Jacket
3	Teflon Jacket, Tin foil Sheild & Drain Wire
4	P.V.C. Insulation Jacket
5	P.V.C. Jacket, Tin foil Sheild & Drain Wire

7. Wire Cable Protection

N	None
S	Stanless Steel Overbraid
F	Flexible Armor Cable

8. Output Termination Option

1	3" Split Leads & 1/2" Bare Ends.	
2	3" Split Leads & No.10 Spade Lugs.	
3	Standard Male Plug	2 & 3 Wire Cable, Only
4	Standard Female Jack	2 & 3 Wire Cable, Only
5	Mini Male Plug	2 & 3 Wire Cable, Only
6	Mini Female Jack	2 & 3 Wire Cable, Only

9. Output Accessories

A	None
B	Bx Connector
C	Cable Clamp

ACCESSORIES

STANDARD CONNECTORS

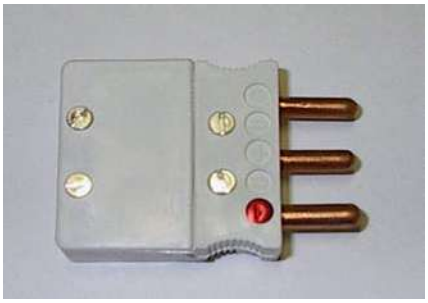
Temperature rating 425º F Max

MALE (2-PIN)

PART #	CALIBRATIONS
LP - (__)	J, K, T, R, U, E, N

FEMALE (2-PIN)

PART #	CALIBRATIONS
LJ - (__)	J, K, T, R, U, E, N



MALE (3-PIN)

PART #	CALIBRATIONS
LP3 - (__)	J, K, T, R, U, E, N

FEMALE (3-PIN)

PART #	CALIBRATIONS
LJ3 -(__)	J, K, T, R, U, E, N

HIGH TEMPERATURE

High temperature rating 800º F continuous (1000º F intermittent)

MALE (2-PIN)

PART #	CALIBRATIONS
HTLP - (__)	J, K, T, R, U, E, N,

FEMALE (2-PIN)

PART #	CALIBRATIONS
HTLJ - (__)	J, K, T, R, U, E, N,

MALE (3-PIN)

PART #	CALIBRATIONS
HTLP3 -(__)	J, K, T, R, U, E, N,

FEMALE (3-PIN)

PART #	CALIBRATIONS
HTLJ3 -(__)	J, K, T, R, U, E, N,

PANEL JACKS

Temperature rating 400º F (max)

2 - PIN

PART #	CALIBRATIONS
H 30 - __	J, K, T, R, U, E, N

3 - PIN

PART #	CALIBRATIONS
H 303 - __	J, K, T, R, U, E, N

CIRCULAR (2-PIN)

PART #	CALIBRATIONS
H 32 - __	J, K, T, R, U, E, N

HIGH TEMPERATURE

High temperature rating 550º F (max)

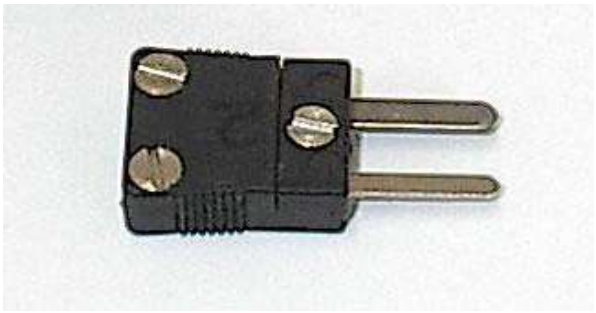
STANDARD (2-PIN)

PART #	CALIBRATIONS
HTH30 - _	J, K, T, R, U, E, N

CIRCULAR (2-PIN)

PART #	CALIBRATIONS
HTH32 - _	J, K, T, R, U, E, N,

MINI MALE PLUG



Temperature rating 400º F

2-PIN

PART #	CALIBRATIONS
MP -(_)	J, K, T, R, U, E, N,

3-PIN

PART #	CALIBRATIONS
MP3 -(_)	J, K, T, R, U, E, N,

HIGH TEMPERATURE MINI PLUG

High temperature rating 550º F

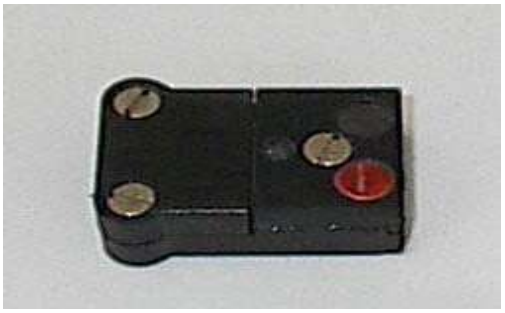
2-PIN

PART #	CALIBRATIONS
HTMP -(_)	J, K, T, R, U, E, N,

3-PIN

PART #	CALIBRATIONS
HTMP3 -(_)	J, K, T, R, U, E, N,

MINI JACK (FEMALE)



Temperature rating 400º F

2-PIN

PART #	CALIBRATIONS
MJ -(_)	J, K, T, R, U, E, N,

3-PIN

PART #	CALIBRATIONS
MJ3 -(_)	J, K, T, R, U, E, N,

HIGH TEMPERATURE MINI JACK

High temperature rating 550º F

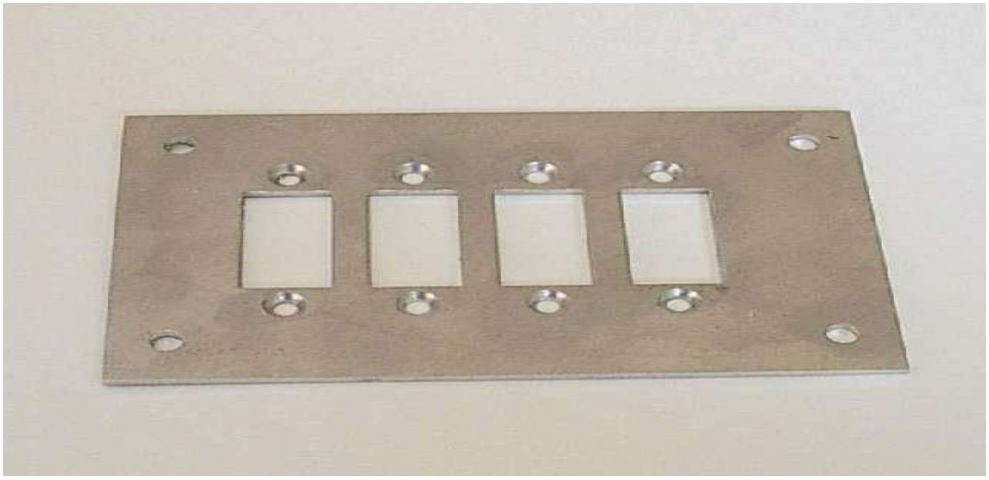
2-PIN

PART #	CALIBRATIONS
HTMJ - (_)	J, K, T, R, U, E, N,

3-PIN

PART #	CALIBRATIONS
HTMJ3 - (_)	J, K, T, R, U, E, N,

STANDARD PANELS FOR OUTLE



No	PART#	# OF JACKS	SIZE
1	H510	0	2 3/4" x 4 1/2"
2	H511	1	2 3/4" x 4 1/2"
3	H512	2	2 3/4" x 4 1/2"
4	H513	3	2 3/4" x 4 1/2"
5	H514	4	2 3/4" x 4 1/2"
6	H515	5	2 3/4" x 4 1/2"
7	H516	6	2 3/4" x 4 1/2"
8	H550	5	3 1/4" x 5 3/4"
9	H551	6	3 1/4" x 5 3/4"
10	H551-1	6	2 5/8" x 5 3/4"
11	H552	8	3 1/4" x 7 1/4"
12	H553	10	3 1/4" x 8 3/4"
13	H554	12	3 1/4" x 10 1/4"
14	H555	20	3 1/2" x 19"
15	H555-16	16	3 1/2" x 19"
16	H555-18	18	3 1/2" x 19"
17	H556 (2 rows of 20)	40	5 1/4" x 19"
18	H557 (4 rows of 20)	80	8 3/4" x 19"

BAYONET ADAPTORS

No	PART #	MATERIAL	LENGTH	THREADS
1	H440-7-1-NI	Steel, Nickel Pl.	7/8"	1/8 NPT
2	H440-7-3	Steel, Zinc Pl.	7/8"	3/8 x 24
3	H440-7-3-NI	Steel, Nickel Pl.	7/8"	3/8 x 24
4	H440-7-BPT	Steel, Blk. Ox	7/8"	1/8 x 28 British
5	H441-0-3-16	Steel, Zinc Pl.	1"	3/8 x 16
6	H441-2-1-NI	Steel, Nickel Pl.	1 1/4"	1/8 NPT
7	H441-3-1-NI	Steel, Nickel Pl.	1 3/8"	1/8 NPT
8	H441-3-3	Steel, Zinc Pl.	1 3/8"	3/8 x 24
9	H441-3-3-16	Steel, Zinc Pl.	1 3/8"	3/8 x 16
10	H441-4-1-NI	Steel, Nickel Pl.	1 1/2"	1/8 NPT
11	H441-6-1	Steel, Zinc Pl.	1 3/4"	1/8 NPT
12	H442-0-1-NI	Steel, Nickel Pl.	2"	1/8 NPT
13	H442-2-1-NI	Steel, Nickel Pl.	2 1/4"	1/8 NPT
14	H442-4-1-NI	Steel, Nickel Pl.	2 1/2"	1/8 NPT
15	H443-0-1-NI	Steel, Nickel Pl.	3"	1/8 NPT
16	H443-0-3	Steel, Zinc Pl.	3"	3/8 x 24
17	H443-4-1-NI	Steel, Nickel Pl.	3 1/2"	1/8 NPT
18	H443-4-3-NI	Steel, Nickel Pl.	3 1/2"	3/8 x 24
19	H444-0-1-NI	Steel, Nickel Pl.	4"	1/8 NPT
20	H444-4-1	Steel, Zinc Pl.	4 1/2"	1/8 NPT
21	H445-0-1	Steel, Zinc Pl.	5"	1/8 NPT
22	H445-4-1	Steel, Zinc Pl.	5 1/2"	1/8 NPT

STOCK METRIC ADAPTORS

PART #	SIZE & THREAD	LENGTH
EA121	M12 x 1	25 mm
EA1215	M12 x 1.5	25 mm
EA1275	M12 x 1.75	25 mm
EA141	M14 x 1	30 mm
EA1415	M14 x 1.5	38 mm
EA142	M14 x 2	30 MM
EA1615	M16 x 1.5	30 MM

* For Additional models please inquire

2-WIRE HEAD MOUNT (RTD, T/C) TRANSMI

FEATURE

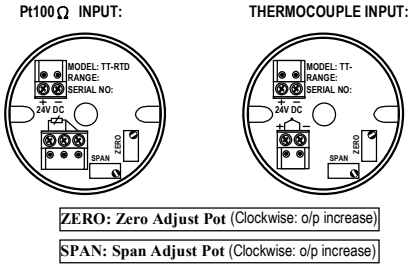
- Accuracy: RTD: 0.15%, T/C: 0.3%
- Wide selection of input / output range
- Dimension small
- Low output ripple
- Head Mount type
- High stability & low cost

SPECIFICATION

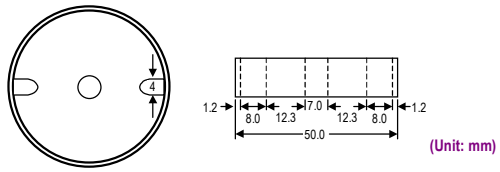
Input Range	Input Impedance	Output Range	Load Resistance
Type K 0 ~ 1200℃	≧1M ohm	4 ~ 20 mA	≦(Vs-12) / 20mA (ohm)
Type J 0 ~ 1000℃	≧1M ohm		
Type E 0 ~ 800℃	≧1M ohm		
Type T -50 ~ 400℃	≧1M ohm		
Pt100Ω -100 ~ 800℃	≧10M ohm		

__Accuracy: RTD (Pt100): ±0.15% of R.O.
__ T/C (K, J, E, T): ±0.3% of R.O.
__Response time: ≦300 msec.
__Span adjustment:: ≦10% of R.O.
__Zero adjustment:: ≦5% of R.O.
__Output ripple: ≦0.3% of R.O.
__Power Supply: DC 16 ~ 36V
__Open circuit protection: Upscale > 22mA
__Operating temperature: 0~60 ℃
__Operating relative humidity: 20~95 %RH
__Temperature coefficient: ≦100 PPM/℃
__Cold junction 25±10℃, error≦0.5℃
__Storage temperature: -10~70 ℃
__Weight: 50g

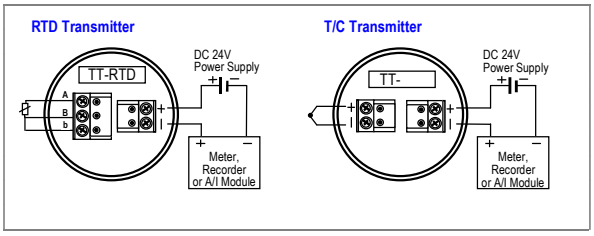
ADJUSTMENT



DIMENSIONS



CONNECTION DIAGRAM



ORDER INFORMATION

TT- Input Type — Input Range

RTD	THERMOCOPLE				CODE	TEMPERATURE RANGE
P	K	J	E	T		
●				●	A	-50 ~+100℃
●					B	-10 ~+40℃
●	●	●	●	●	C	0 ~ 50℃
●	●	●	●	●	D	0 ~ 100℃
●	●	●	●	●	E	0 ~ 200℃
●	●	●	●	●	F	0 ~ 400℃
●	●	●	●		G	0 ~ 500℃
●	●	●	●		H	0 ~ 600℃
●	●	●	●		I	0 ~ 800℃
	●	●			J	0 ~ 1000℃
	●				K	0 ~ 1200℃
					O	Specify

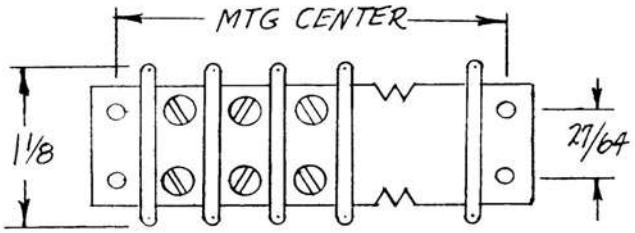
NYLON BARRIER TERMINAL STRI

- Made 0f the same glass-filled Nylon used in our thermocouple connect
- Similar to Cinch type 141 or equivalent with 27/64" screw spacing ineach section, with 6-32 terminal screws
- Nuts for the terminal screws are pressed into the back of the terminal strips.

There are no terminal lugs or connecting strips between the terminal screws in each section on the basic H221-XX and H222-XX barrier terminal strips.

Series H221 - Screws are not installed, but are supplie in a separate bag ready for installation of the termina lugs.

Series H222 - Screws are installed (there is no lug between them in each section).

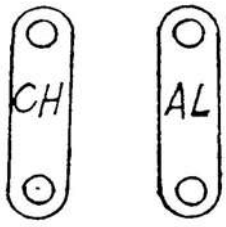


Series H223 - Has nickel plated copper lugs installed in each section. For non-thermocople applications.

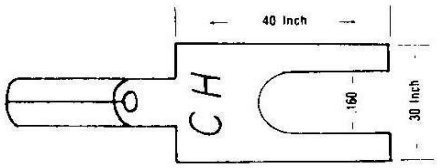
Series H224 - Has thermocouple compensating lugs installed, as specified.

Number of Terminals	Length: Inches	Mounting Centers: Inches	Part Number Basic Strip	Part No. w/Screws Installed	Part No.w/ Nickel Plated Copper Lugs	Part Number w/TC lugs (Calibration)
2	1 5/8	1 5/16	H221-2	H222-2	H223-2	H224-2-_____
3	2 1/8	1 3/4	H221-3	H222-3	H223-3	H224-3-_____
4	2 1/2	2 1/5	H221-4	H222-4	H223-4	H224-4-_____
6	3 3/8	3 1/16	H221-6	H222-6	H223-6	H224-6-_____
8	4 1/4	3 15/16	H221-8	H222-8	H223-8	H224-8-_____
10	5 1/8	4 13/16	H221-10	H222-10	H223-10	H224-10-____
12	6	5 11/16	H221-12	H222-12	H223-12	H224-12-____
14	6 7/8	6 9/16	H221-14	H222-14	H223-14	H224-14-____
16	7 3/4	7 7/16	H221-16	H222-16	H223-16	H224-16-____
20	9 1/2	9 3/16	H221-20	H222-20	H223-20	H224-20-____

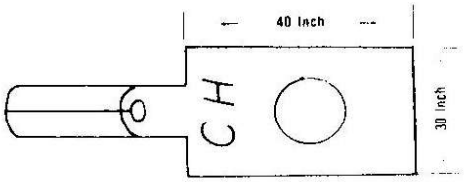
Terminal Lugs



Spade Lugs



Ring Lugs



T/C Alloy	Terminal Lug P/N	Spade Lug P/N	Ring Lug for #8 Stud P/N	Ring Lug for #10 Stud P/N
Chromel	H200-CH	H210-CH	H230-CH	H231-CH
Alumel	H200-AL	H210-AL	H230-AL	H231-AL
Iron	H200-IR	H210-IR	H230-IR	
Constantan	H200-CO	H210-CO	H230-CO	
Copper	H200-CP	H210-CP	H230-CP	
Alloy II	H200-11	H210-11	H230-11	
Nicrosil	H200-N+	H210-N+		H231-N+
Nisil	H200-N-	H210-N-		H231-N-

Compensated Terminal Lugs to Fit Barrier Terminal Blocks Compensated Spade and Ring Lugs to Accept

COMPRESSION FITTINGS

- "Drilled-Thru" for Thermocouples
- Re-Adjustable Fittings use a Teflon ® ferrule
- Lava and Neoprene Ferrules Available - Inquire

PART#	BORE	MATERIAL	NPT
NCB 12	1/16"	Brass Compression Fitting	1/8
NCB 14	1/16"	Brass Compression Fitting	1/4
NCB 18	1/16"	Brass Compression Fitting	1/2
NCB 22	1/8"	Brass Compression Fitting	1/8
NCB 24	1/8"	Brass Compression Fitting	1/4
NCB 28	1/8"	Brass Compression Fitting	1/2
NCB 32	3/16"	Brass Compression Fitting	1/8
NCB 32-4.5mm	4.5mm	Brass Compression Fitting	1/8
NCB 34	3/16"	Brass Compression Fitting	1/4
NCB 38	3/16"	Brass Compression Fitting	1/2
NCB 38-4.5mm	4.5mm	Brass Compression Fitting	1/2
NCB 42	1/4"	Brass Compression Fitting	1/8
NCB 44	1/4"	Brass Compression Fitting	1/4
NCB 48	1/4"	Brass Compression Fitting	1/2
NCB 88	1/2"	Brass Compression Fitting	1/2
NCS 11	1/16"	S/S Compression Fitting	1/16
NCS 12	1/16"	S/S Compression Fitting	1/8
NCS 12T	1/16"	S/S Re-Adjustable Fitting	1/8
NCS 21	1/8"	S/S Compression Fitting	1/16
NCS 22	1/8"	S/S Compression Fitting	1/8
NCS 22T	1/8"	S/S Re-Adjustable Fitting	1/8
NCS 22-3mm	3mm	S/S Compression Fitting	1/8
NCS 24	1/8"	S/S Compression Fitting	1/4
NCS 24T	1/8"	S/S Re-Adjustable Fitting	1/4
NCS 32	3/16"	S/S Compression Fitting	1/8
NCS 32T	3/16"	S/S Re-Adjustable Fitting	1/8
NCS 34	3/16"	S/S Compression Fitting	1/4
NCS 34T	3/16"	S/S Re-Adjustable Fitting	1/4
NCS 42	1/4"	S/S Compression Fitting	1/8
NCS 42T	1/4"	S/S Re-Adjustable Fitting	1/8
NCS 42-6mm	6mm	S/S Compression Fitting	1/8
NCS 44	1/4"	S/S Compression Fitting	1/4
NCS 44T	1/4"	S/S Re-Adjustable Fitting	1/4
NCS 48	1/4"	S/S Compression Fitting	1/2
NCS 48T	1/4"	S/S Re-Adjustable Fitting	1/2
NCS 64	3/8"	S/S Compression Fitting	1/4
NCS 64T	3/8"	S/S Re-Adjustable Fitting	1/4
NCS 68	3/8"	S/S Compression Fitting	1/2
NCS 68T	3/8"	S/S Re-Adjustable Fitting	1/2

THERMOCO
PVC Insulatec

Applications
- Temperature Sensors
- Testing
- Laboratories
- Heating and Air Conditioning
- General Industry

Product Features
- Continuous use up to 221°F (105°C)
- Flame Retardant
- Good Moisture, Chemical and Solvent Resistance
- Excellent Dielectric Strength
- Economical Construction

Available Options
- Metal Overbraids
- Galvanized Half-Oval Armor
- Nylon Jackets
- Twisted/Shielded Pair
- Multi-Pair Cables
- Cotton Overbraid
- TPE Insulation and Jacket Rated to 250°F (125°C)
- Special Color Codes

Product Specifications

Conductors: Solid or stranded thermocouple wire per ASTM E230 & ANSI MC96.1

Insulation: Flame retardant PVC

Construction: Parallel conductors

Jacket: Flame retardant PVC

Operating Temperature: -15°F (-26°C) to +221°F (+105°C) continuous

Limits of Error: Conforms to ASTM E230, IEC 584 and ANSI MC 96.1

Color Code: Conforms to ASTM E230 and ANSI MC 96.1 (International Color Codes Available)

Ordering Code

P / P [ ] - [ ] [ ] - [ ]

Optional Metal Coverings

S	= Stainless Steel Braid
CU	= Tinned Copper Braid
I	= Inconel Braid
X	= Half-Oval Galvanized Steel

- Wire Size AWG or Metric
- Add (F) for Stranded Wire
- Calibration Grade Designation Per Table 1

National Plastic Heater, Sensor & Control Inc. | Tel: 905-859-8225 Toll Free: 1-877-674-9744
50 Doctor Kay Dr., Unit B-13, Schomberg, ON L0G 1T0 | sales@nphheaters.com www.nph-processheaters.com

Nominal Weights and Dimensions PV

Conductor Size AWG	(MM)	Insulation Thickness Inches	(MM)	Jacket Thickness Inches	(MM)	Outer Diam Inches	(M		
12	(2.05)	.020	(.51)	.020	(.51)	.161 x .282	(4.1 x 7.2)	57	(85)
14	(1.63)	.015	(.38)	.015	(.38)	.124 x .218	(3.1 x 5.5)	34	(51)
14F*	(1.80)	.015	(.38)	.015	(.38)	.132 x .234	(3.4 x 5.9)	38	(57)
16	(1.29)	.015	(.38)	.015	(.38)	.111 x .192	(2.8 x 4.9)	24	(36)
16F*	(1.47)	.015	(.38)	.015	(.38)	.118 x .206	(3.0 x 5.2)	26	(39)
18	(1.02)	.015	(.38)	.015	(.38)	.100 x .170	(2.5 x 4.3)	17	(25)
18F*	(1.22)	.015	(.38)	.015	(.38)	.108 x .186	(2.7 x 4.7)	18	(27)
20	(0.81)	.015	(.38)	.015	(.38)	.092 x .154	(2.3 x 3.9)	14	(21)
20F*	(0.97)	.015	(.38)	.015	(.38)	.096 x .162	(2.4 x 4.1)	15	(22)
22	(0.64)	.015	(.38)	.015	(.38)	.085 x .140	(2.2 x 3.6)	8.1	(13)
24	(0.51)	.015	(.38)	.015	(.38)	.080 x .130	(2.0 x 3.3)	7.1	(11)
24F*	(0.61)	.015	(.38)	.015	(.38)	.084 x .138	(2.1 x 3.5)	7.6	(12)

* Denotes flexible 7-strand wire

Initial Calibration Tolerances Per ASTM E230 and MC96.1

Thermocouple Type	Temperature Range ºF (ºC)	Grade Designation	Tolerance-Reference Junction 32ºF (0ºC) Standard Grade Limits ºF (ºC) whichever is greater	Grade Designation	Special Grade Limits ºF (ºC) whichever is greater
Thermocouple Wire					
T	32 (0) to 700 (370)	T	±1.8 (1) or ±0.75%	TT	±0.9 (0.5) or 0.4%
J	32 (0) to 1400 (760)	J	±4 (2.2) or ±0.75%	JJ	±2 (1.1) or 0.4%
E	32 (0) to 1600 (870)	E	±3.1(1.7) or ±0.50%	EE	±1.8 (1) or 0.4%
K or N	32 (0) to 2300 (1260)	K or N	±4 (2.2) or ±0.75%	KK or NN	±2 (1.1) or 0.4%
T*	-328 (-200) to 32 (0)	T	±1.8 (1) or ±1.5%	TT	±0.9(0.5) or 0.8%**
E*	-328 (-200) to 32 (0)	E	±3.1(1.7) or ±1%	EE	±1.8 (1) or 0.5%**
K*	-328 (-200) to 32 (0)	K	±4 (2.2) or ±2%	KK	**
Extension Wire					
TX	32 (0) to 212 (100)	TX	±1.8 (1)	TTX	±0.9 (0.5)
JX	32 (0) to 400 (200)	JX	±4 (2.2)	JJX	±2 (1.1)
EX	32 (0) to 400 (200)	EX	±3.1(1.7)	EEX	±1.8 (1)
KX or NX	32 (0) to 400 (200)	KX or NX	±4 (2.2)	KKX or NNX	±2 (1.1)
Compensating Extension Wire					
RX or SX	32 (0) to 400 (200)	RX or SX	±9 (5)		
BX	32 (0) to 212 (100)	BX***	±7.6 (4.2)		
BX	32 (0) to 400 (200)	BX ALLOY***	±6.7(3.7)		

* Thermocouple material is normally supplied to meet tolerances above 0ºC (32ºF). If material is required to meet tolerances below 0ºC (32ºF), the purchase order must so state. Special selection of material is required.

** Suggested initial calibration tolerance. Requirements should be discussed between purchaser and supplier.

*** Copper vs. copper can be used as an extension for Type B thermocouples if the transition is below 100ºC (112ºF). Above 100ºC (112ºF), PCLW30-6 alloy should be used as the positive extension wire.

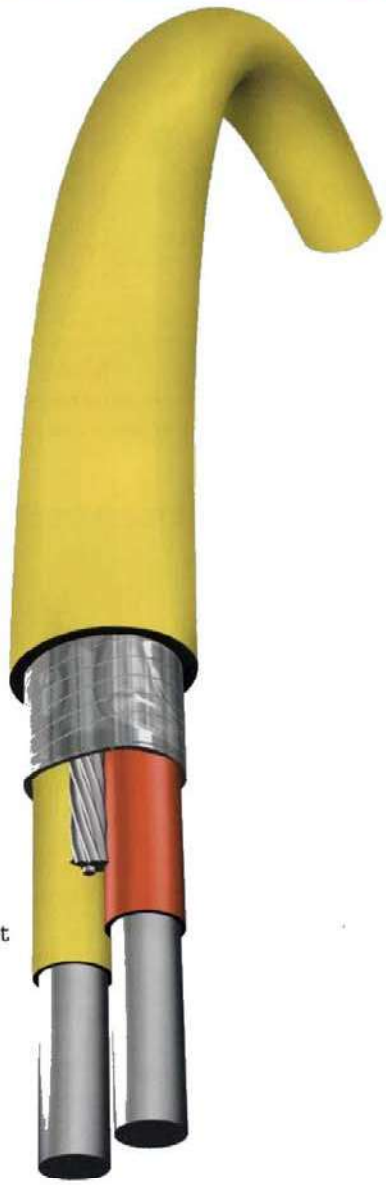
THERMOCOL

Shielded PVC Insulated 221°F (105°C)

Applications
- Temperature Sensors
- Testing
- Laboratories
- New Plant Construction
- General Industry

Product Features
- Continuous use up to 221°F (105°C)
- Flame Retardant
- Good Moisture, Chemical and Solvent Resistance
- Excellent Dielectric Strength
- 100% Continuous Drain/Shield Contact
- Economical Construction

Available Options
- Metal Overbraids
- Multi-Pair Cables
- UL Listed Constructions
- TPE Insulation and Jacket Rated to 250°F (125°C)
- Special Color Codes
- Calibration Test Reports



Product Specifications

Conductors: Solid or stranded thermocouple wire per ASTM E230 & ANSI MC96.1

Insulation: Flame retardant PVC

Construction: Single twisted pair

Pair Shield: .002"(.05MM) aluminum/polyester tape, 25% overlap

Pair Drain Wire: 7-strand tinned copper, 2 AWG sizes smaller than conductor (24 AWG smallest drain)

Jacket: Flame retardant PVC with ripcord under jacket

Operating Temperature: -15°F (-26°C) to +221°F (+105°C) continuous

Limits of Error: Conforms to ASTM E230, IEC 584 and ANSI MC 96.1

Color Code: Conforms to ASTM E230 and ANSI MC 96.1 (International Color Codes Available)

Ordering Code

P/ALPTW [ ] - [ ] [ ] - [ ]

Optional Metal Coverings
- S = Stainless Steel Braid
- CU = Tinned Copper Braid
- I = Inconel Braid
- X = Half-Oval Galvanized Steel

Wire Size AWG or Metric

Add (F) for Stranded Wire

Calibration Grade Designation Per Table 1

Nominal Weights and Dimensions — Shielded PV

Conductor Size AWG	(MM)	Insulation Thickness Inches	(MM)	Jacket Thickness Inches	(MM)	Outer Diam Inches	(M		
12	(2.05)	.020	(.51)	.025	(.64)	.308	(7.8)	77	(115)
14	(1.63)	.020	(.51)	.025	(.64)	.274	(7.0)	54	(80)
14F*	(1.80)	.020	(.51)	.025	(.64)	.290	(7.4)	60	(89)
16	(1.29)	.015	(.38)	.020	(.51)	.218	(5.5)	35	(52)
16F*	(1.47)	.015	(.38)	.020	(.51)	.232	(5.9)	38	(57)
18	(1.02)	.015	(.38)	.020	(.51)	.196	(5.0)	25	(37)
18F*	(1.22)	.015	(.38)	.020	(.51)	.208	(5.3)	27	(40)
20	(0.81)	.015	(.38)	.020	(.51)	.180	(4.6)	18	(27)
20F*	(0.97)	.015	(.38)	.020	(.51)	.188	(4.8)	20	(30)
22	(0.64)	.015	(.38)	.020	(.51)	.166	(4.2)	16	(24)
24	(0.51)	.015	(.38)	.020	(.51)	.156	(4.0)	12	(18)
24F*	(0.61)	.015	(.38)	.020	(.51)	.164	(4.1)	13	(19)

* Denotes flexible 7-strand wire

Initial Calibration Tolerances Per ASTM E230 and MC96.1

Thermocouple Type	Temperature Range ºF (ºC)	Grade Designation	Tolerance-Reference Junction 32ºF (0ºC) Standard Grade Limits ºF (ºC) whichever is greater	Grade Designation	Special Grade Limits ºF (ºC) whichever is greater
Thermocouple Wire					
T	32 (0) to 700 (370)	T	±1.8 (1) or ±0.75%	TT	±0.9 (0.5) or 0.4%
J	32 (0) to 1400 (760)	J	±4 (2.2) or ±0.75%	JJ	±2 (1.1) or 0.4%
E	32 (0) to 1600 (870)	E	±3.1(1.7) or ±0.50%	EE	±1.8 (1) or 0.4%
K or N	32 (0) to 2300 (1260)	K or N	±4 (2.2) or ±0.75%	KK or NN	±2 (1.1) or 0.4%
T*	-328 (-200) to 32 (0)	T	±1.8 (1) or ±1.5%	TT	±0.9(0.5) or 0.8%**
E*	-328 (-200) to 32 (0)	E	±3.1(1.7) or ±1%	EE	±1.8 (1) or 0.5%**
K*	-328 (-200) to 32 (0)	K	±4 (2.2) or ±2%	KK	**
Extension Wire					
TX	32 (0) to 212 (100)	TX	±1.8 (1)	TTX	±0.9 (0.5)
JX	32 (0) to 400 (200)	JX	±4 (2.2)	JJX	±2 (1.1)
EX	32 (0) to 400 (200)	EX	±3.1(1.7)	EEX	±1.8 (1)
KX or NX	32 (0) to 400 (200)	KX or NX	±4 (2.2)	KKX or NNX	±2 (1.1)
Compensating Extension Wire					
RX or SX	32 (0) to 400 (200)	RX or SX	±9 (5)		
BX	32 (0) to 212 (100)	BX***	±7.6 (4.2)		
BX	32 (0) to 400 (200)	BX ALLOY***	±6.7(3.7)		

* Thermocouple material is normally supplied to meet tolerances above 0ºC (32ºF). If material is required to meet tolerances below 0ºC (32ºF), the purchase order must so state. Special selection of material is required.

** Suggested initial calibration tolerance. Requirements should be discussed between purchaser and supplier.

*** Copper vs. copper can be used as an extension for Type B thermocouples if the transition is below 100ºC (112ºF). Above 100ºC (112ºF), PCLW30-6 alloy should be used as the positive extension wire.

THERMOCOU

PFA Insulated 500°F (260°C)

Applications

- Temperature Sensors
- Aerospace
- Transportation
- Cryogenics
- Petrochemical Plants
- FDA Approved Applications
- Composites

Product Features

- Continuous use up to 500°F (260°C)
- Excellent Chemical Resistance
- Excellent Electrical Properties
- Flame Retardant
- Passes IEEE 383 Flame Test
- Passes VW-1 Flame Test

Available Options

- Metal Overbraids
- Galvanized Half-Oval Armor
- Twisted/Shielded Pair
- Multi-Pair Cables
- Fiberglass Overbraid
- ETFE Insulation and Jacket Rated to 300°F (150°C)
- Special Color Codes
- Calibration Test Reports

Product Specifications

Conductors: Solid or stranded thermocouple wire per ASTM E230 & ANSI MC96.1

Insulation: Flame retardant extruded fluoropolymer PFA

Construction: Parallel conductors

Jacket: Flame retardant extruded fluoropolymer PFA

Operating Temperature: -328°F (-200°C) to +500°F (+260°C) continuous

Limits of Error: Conforms to ASTM E230, IEC 584 and ANSI MC 96.1

Color Code: Conforms to ASTM E230 and ANSI MC 96.1 (International Color Codes Available)

Ordering Code

PFA / PFA [ ] - [ ] [ ] - [ ]

Optional Metal Coverings

- S = Stainless Steel Braid
- CU = Tinned Copper Braid
- I = Inconel Braid
- X = Half-Oval Galvanized Steel

- Wire Size AWG or Metric
- Add (F) for Stranded Wire
- Calibration Grade Designation Per Table 1

Nominal Weights and Dimensions PF

Conductor Size AWG	(MM)	Insulation Thickness Inches	(MM)	Jacket Thickness Inches	(MM)	Outer Diam Inches	(M		
14	(1.63)	.008	(.20)	.010	(.25)	.104 x .188	(2.6 x 4.8)	34	(51)
16	(1.29)	.008	(.20)	.010	(.25)	.087 x .154	(2.2 x 3.9)	22	(33)
16F*	(1.47)	.008	(.20)	.010	(.25)	.094 x .168	(2.4 x 4.3)	24	(36)
18	(1.02)	.008	(.20)	.010	(.25)	.076 x .132	(1.9 x 3.4)	15	(22)
20	(0.81)	.008	(.20)	.010	(.25)	.068 x .116	(1.7 x 2.9)	11	(16)
20F*	(0.97)	.008	(.20)	.010	(.25)	.072 x .124	(1.8 x 3.1)	12	(18)
22	(0.64)	.008	(.20)	.010	(.25)	.061 x .102	(1.5 x 2.6)	7.6	(11)
24	(0.51)	.008	(.20)	.010	(.25)	.056 x .092	(1.4 x 2.3)	5.7	(8.5)
24F*	(0.61)	.008	(.20)	.010	(.25)	.060 x .100	(1.6 x 2.7)	6.2	(9.2)
26	(0.41)	.008	(.20)	.010	(.25)	.052 x .084	(1.3 x 2.1)	4.4	(6.5)
28	(0.32)	.008	(.20)	.010	(.25)	.049 x .078	(1.2 x 2.0)	3.7	(5.5)
30	(0.25)	.008	(.20)	.010	(.25)	.046 x .072	(1.2 x 1.8)	3.0	(4.5)

* Denotes flexible 7-strand wire

Initial Calibration Tolerances Per ASTM E230 and MC96.1

Thermocouple Type	Temperature Range ºF (ºC)	Grade Designation	Tolerance-Reference Junction 32ºF (0ºC) Standard Grade Limits ºF (ºC) whichever is greater	Grade Designation	Special Grade Limits ºF (ºC) whichever is greater
Thermocouple Wire					
T	32 (0) to 700 (370)	T	±1.8 (1) or ±0.75%	TT	±0.9 (0.5) or 0.4%
J	32 (0) to 1400 (760)	J	±4 (2.2) or ±0.75%	JJ	±2 (1.1) or 0.4%
E	32 (0) to 1600 (870)	E	±3.1(1.7) or ±0.50%	EE	±1.8 (1) or 0.4%
K or N	32 (0) to 2300 (1260)	K or N	±4 (2.2) or ±0.75%	KK or NN	±2 (1.1) or 0.4%
T*	-328 (-200) to 32 (0)	T	±1.8 (1) or ±1.5%	TT	±0.9(0.5) or 0.8%**
E*	-328 (-200) to 32 (0)	E	±3.1(1.7) or ±1%	EE	±1.8 (1) or 0.5%**
K*	-328 (-200) to 32 (0)	K	±4 (2.2) or ±2%	KK	**
Extension Wire					
TX	32 (0) to 212 (100)	TX	±1.8 (1)	TTX	±0.9 (0.5)
JX	32 (0) to 400 (200)	JX	±4 (2.2)	JJX	±2 (1.1)
EX	32 (0) to 400 (200)	EX	±3.1(1.7)	EEX	±1.8 (1)
KX or NX	32 (0) to 400 (200)	KX or NX	±4 (2.2)	KKX or NNX	±2 (1.1)
Compensating Extension Wire					
RX or SX	32 (0) to 400 (200)	RX or SX	±9 (5)		
BX	32 (0) to 212 (100)	BX***	±7.6 (4.2)		
BX	32 (0) to 400 (200)	BX ALLOY***	±6.7(3.7)		

* Thermocouple material is normally supplied to meet tolerances above 0ºC (32ºF). If material is required to meet tolerances below 0ºC (32ºF), the purchase order must so state. Special selection of material is required.

** Suggested initial calibration tolerance. Requirements should be discussed between purchaser and supplier.

*** Copper vs. copper can be used as an extension for Type B thermocouples if the transition is below 100ºC (112ºF). Above 100ºC (112ºF), PCLW30-6 alloy should be used as the positive extension wire.

THERMOCOU

Fiberglass Insulated 950°F (510°C)

Applications
- Heat Treatment
- Temperature Sensors
- Steel and Aluminum Industry
- Plastic Processing Equipment
- Furnace Surveys
- Testing

Product Features
- Continuous use up to 950°F (510°C)
- Single Exposure up to 1200°F (650°C)
- Good Moisture, Chemical and Abrasion Resistance
- High Temperature Stability

Available Options
- Reduced Itch Tuffbond™ Impregnation on Singles
- Stabilized Type K & Type E Conductors
- Fused PTFE Tape Moisture Barrier
- Double Glass Braid Insulation
- Twisted/Shielded Pair
- Metal Coverings
- Tighter Than Special Limit Accuracy Tolerances
- Special Color Codes
- Calibration Test Reports

Product Specifications

Conductors: Solid or stranded thermocouple wire per ASTM E230 & ANSI MC96.1

Insulation: Braided fiberglass with high temperature impregnation* (24 to 30 AWG Served Glass)

Construction: Parallel conductors

Jacket: Braided fiberglass with high temperature impregnation*

Operating Temperature: +950°F (+510°C) continuous
+1200°F (+650°C) single exposure

Limits of Error: Conforms to ASTM E230, IEC 584 and ANSI MC 96.1

Color Code: Conforms to ASTM E230 and ANSI MC 96.1 (International Color Codes Available)

*Impregnation maintained to +400°F (+200°C)

Ordering Code

G / G [ ] - [ ] [ ] - [ ]

Optional Metal Coverings
- S = Stainless Steel Braid
- CU = Tinned Copper Braid
- I = Inconel Braid
- X = Half-Oval Galvanized Steel

- Wire Size AWG or Metric
- Add (F) for Stranded Wire
- Calibration Grade Designation Per Table 1

Nominal Weights and Dimensions — Fibergl

Conductor Size AWG	(MM)	Insulation Thickness Inches	(MM)	Jacket Thickness Inches	(MM)	Outer Diam Inches	(M		
14	(1.63)	.007	(.18)	.010	(.25)	.100 x .180	(2.5 x 4.6)	29	(43)
16	(1.29)	.007	(.18)	.010	(.25)	.085 x .150	(2.2 x 3.8)	20	(30)
16F*	(1.47)	.007	(.18)	.010	(.25)	.094 x .168	(2.4 x 4.3)	22	(33)
18	(1.02)	.007	(.18)	.010	(.25)	.070 x .124	(1.8 x 3.2)	13	(19)
20	(0.81)	.006	(.15)	.006	(.15)	.056 x .100	(1.4 x 2.5)	7.7	(11)
20F*	(0.97)	.006	(.15)	.006	(.15)	.060 x .108	(1.5 x 2.7)	8.3	(12)
22	(0.64)	.006	(.15)	.006	(.15)	.049 x .086	(1.2 x 2.2)	5.4	(8.0)
24	(0.51)	.006	(.15)	.006	(.15)	.040 x .068	(1.0 x 1.7)	3.2	(4.8)
24F*	(0.61)	.006	(.15)	.006	(.15)	.048 x .084	(1.2 x 2.1)	3.4	(5.1)
26	(0.41)	.004	(.11)	.006	(.15)	.036 x .060	(0.9 x 1.5)	2.2	(3.3)
28	(0.32)	.004	(.11)	.006	(.15)	.033 x .054	(0.8 x 1.4)	1.7	(2.5)
30	(0.25)	.004	(.11)	.006	(.15)	.030 x .048	(0.8 x 1.2)	1.3	(1.9)

* Denotes flexible 7-strand wire

Initial Calibration Tolerances Per ASTM E230 and MC96.1

Thermocouple Type	Temperature Range ºF (ºC)	Grade Designation	Tolerance-Reference Junction 32ºF (0ºC) Standard Grade Limits ºF (ºC) whichever is greater	Grade Designation	Special Grade Limits ºF (ºC) whichever is greater
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T	32 (0) to 700 (370)	T	±1.8 (1) or ±0.75%	TT	±0.9 (0.5) or 0.4%
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T*	-328 (-200) to 32 (0)	T	±1.8 (1) or ±1.5%	TT	±0.9(0.5) or 0.8%**
E*	-328 (-200) to 32 (0)	E	±3.1(1.7) or ±1%	EE	±1.8 (1) or 0.5%**
K*	-328 (-200) to 32 (0)	K	±4 (2.2) or ±2%	KK	**
Extension Wire					
TX	32 (0) to 212 (100)	TX	±1.8 (1)	TTX	±0.9 (0.5)
JX	32 (0) to 400 (200)	JX	±4 (2.2)	JJX	±2 (1.1)
EX	32 (0) to 400 (200)	EX	±3.1(1.7)	EEX	±1.8 (1)
KX or NX	32 (0) to 400 (200)	KX or NX	±4 (2.2)	KKX or NNX	±2 (1.1)
Compensating Extension Wire					
RX or SX	32 (0) to 400 (200)	RX or SX	±9 (5)		
BX	32 (0) to 212 (100)	BX***	±7.6 (4.2)		
BX	32 (0) to 400 (200)	BX ALLOY***	±6.7(3.7)		

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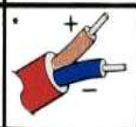
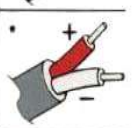
Color Codes

Thermocouple

Codes/Conductor combinations
Characteristics
National & International standards
Extension & compensating cable colours

National colour coding for insulation of the thermocouple and extension cable (and compensating cable where noted as such)

CODE	CONDUCTOR COMBINATIONS + leg	CONDUCTOR COMBINATIONS − leg	Approximate working temperature range of measuring junction	BRITISH to BS 1843	AMERICAN to ANSI/MC96.1	GERMAN to DIN 43714	FRENCH to NF C 42-323	JAPANESE to JIS C 1610-1981
K	NICKEL-CHROMIUM. Also known as *Chromel, Thermokanthal KP, Ni-Cr *T1, *Tophel	NICKEL-ALUMINIUM magnetic). Also known as Ni-Al, *Alumel, *Thermokanthal KN, *T2, *Nial	0 to + 1100					
V	COPPER	COPPER-NICKEL. Also known as: Nickel, *Cupron, *Advance, Constanan	Compensating Cable only		Colour coded for use as a compensating cable for Type 'K' thermocouples.			
T	COPPER	COPPER-NICKEL. Also known as: Constantan *Advance, *Cupron	− 185 to + 300					
J	IRON (magnetic). Also known as: Fe	COPPER-NICKEL. Also known as: Constantan *Advance, *Cupron	+ 20 to + 700					
E	NICKEL-CHROMIUM. Also known as: 'Chromel *Tophel, Chromium, Nickel	COPPER-NICKEL. Also known as Nickel, Copper Constantan, *Advance, *Cupron	0 to + 800					
N	NICKEL-CHROMIUM-SILICON. Also known as Nicrosil	NICKEL-SILICON-MAGNESIUM. Also known as Nisil	0 to + 1100		This combination shows good promise as an alternative to Type 'K'. Appears to be more stable and longer lived.			
R	PLATINUM-13% RHODIUM	PLATINUM	0 to + 1600					
S	PLATINUM-10% RHODIUM	PLATINUM	0 to + 1550					
B	PLATINUM-30% RHODIUM	PLATINUM 6% RHODIUM	+ 100 to + 1600					
U	COPPER	COPPER-LOW VALUE NICKEL. Also known as Nickel. *Advance, *Cupronic	Compensating Cable only					

TEMPERATURE AND METRIC CONVERSI(

Temperature Conversion Data

ºF……..ºC	ºF……..ºC	ºF……..ºC	ºF……..ºC	ºF……..ºC
140……..60.00	160……..71.11	180……..82.22	200……..93.33	300……..148.89
141……..60.55	161……..71.66	181……..82.77	205……..96.11	305……..151.67
142……..61.11	162……..72.22	182……..83.33	210……98.89	310……..154.44
143……..61.66	163……..72.77	183……..83.88	215……101.67	315……..157.22
144……..62.22	164……..73.33	184……..84.44	220……104.44	320……..160.00
145……..62.78	165……..73.89	185……..85.00	225……107.22	325……..162.78
146…….63.33	166……74.44	186……..85.55	230……110.00	330……..165.56
147……..63.88	167……..75.00	187……..86.11	235……112.78	335……..168.33
148……..64.44	168……..75.55	188……..86.66	240……..115.56	340……..171.11
149……..65.00	169……..76.11	189……..87.22	245……118.33	345……..173.89
150……..65.56	170……..76.67	190……..87.78	250……121.11	350……..176.67
151……..66.11	171……..77.22	191……..88.33	255……123.89	355……..179.44
152…….66.66	172……77.77	192……..88.88	260……126.67	360……..182.22
153……..67.22	173……..78.33	193……..89.44	265……129.44	365……..185.00
154……..67.77	174……..78.88	194……..90.00	270……132.22	370……..187.78
155……..68.33	175……..79.44	195……..90.55	275……135.00	375……..190.55
156……..68.88	176……..80.00	196……..91.11	280……137.78	380……..193.33
157……..69.44	177……..80.55	197……..91.66	285……140.55	385……..196.11
158……..70.00	178……81.11	198……..92.22	290……143.33	390……..198.89
159……..70.55	179……81.66	199……..92.77	295……146.11	395……..201.67

Metric Conversion Factors

Length
Inch x 25.4 = Millimeters
Millimeters x 0.03937 = Inches
Feet x 0.3048 = Meters
Meters x 3.281 = Feet

Mass
Ounce x 28.35 = Gram
Gram x 0.03527 = Ounce
Pound x 0.4536 = Kilogram
Kilogram x 2.205 = Pound

Area
Square Inch x 6.452 = Square Centimeter
Square Centimeter x 0.1550 = Square Inch
Square Foot x 0.0929 = Square Meter
Square Meter x 10.76 = Square Foot

Volume
Cubic Inch x 16.39 = Cubic Centimeter
Cubic Centimeter x 0.06102 = Cubic Inch
Cubic Foot x 0.02832 = Cubic Meter
Cubic meter x 35.31 = Cubic Foot

Fractions to decimals to Millimeters Conversion Chart

Inches		mm	Inches		mm	Inches		mm	Inches		mm
Fraction	Decimal		Fraction	Decimal		Fraction	Decimal		Fraction	Decimal	
1/64	0.0156	0.3969	17/64	0.2656	6.7469	33/64	0.5156	13.0969	49/64	0.7656	19.4469
1/32	0.0312	0.7938	9/32	0.2812	7.1438	17/32	0.5312	13.4938	25/32	0.7812	19.8437
3/64	0.0468	1.1906	19/64	0.2968	7.5406	35/64	0.5468	13.8906	51/64	0.7968	20.2406
1/16	0.0625	1.5875	5/16	0.3125	7.9375	9/16	0.5625	14.2875	13/16	0.8125	20.6375
5/64	0.0781	1.9844	21/64	0.3281	8.3344	37/64	0.5781	14.6844	53/64	0.8281	21.0344
3/32	0.0937	2.3812	11/32	0.3437	8.7312	19/32	0.5937	15.0812	27/32	0.8437	21.4312
7/64	0.1093	2.7781	23/64	0.3593	9.1281	39/64	0.6093	15.4781	55/64	0.8593	21.8281
1/8	0.1250	3.1750	3/8	0.3750	9.5250	5/8	0.6250	15.8750	7/8	0.8750	22.2250
9/64	0.1406	3.5719	25/64	0.3906	9.9219	41/64	0.6406	16.2719	57/64	0.8906	22.6219
5/32	0.1562	3.9688	13/32	0.4062	10.3188	21/32	0.6562	16.6688	29/32	0.9062	23.0188
11/64	0.1718	4.3656	27/64	0.4218	10.7156	43/64	0.6718	17.0656	59/64	0.9218	23.4156
3/16	0.1875	4.7625	7/16	0.4375	11.1125	11/16	0.6875	17.4625	15/16	0.9375	23.8125
13/64	0.2031	5.1594	29/64	0.4531	11.5094	45/64	0.7031	17.8594	61/64	0.9531	24.2094
7/32	0.2187	5.5562	5/32	0.4687	11.9062	23/32	0.7187	18.2562	31/32	0.9687	24.6062
15/64	0.2343	5.9531	31/64	0.4843	12.3031	47/64	0.7343	18.6531	63/64	0.9843	25.0031
1/4	0.2500	6.3500	1/2	0.5000	12.7000	3/4	0.7500	19.0500	1	1.0000	25.4000